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THE SPHERE

Vol. CLXX No. 2222 WITH WHICH IS INCORPORATED THE GRAPHIC AUGUST 22 1942

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(We cannot publish the officer's name or ship, but the original letter can be produced among many other testimonials at our office.)

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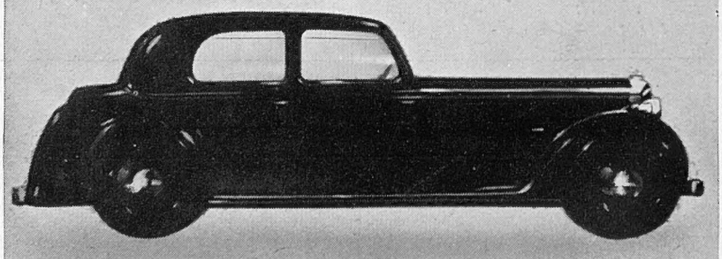
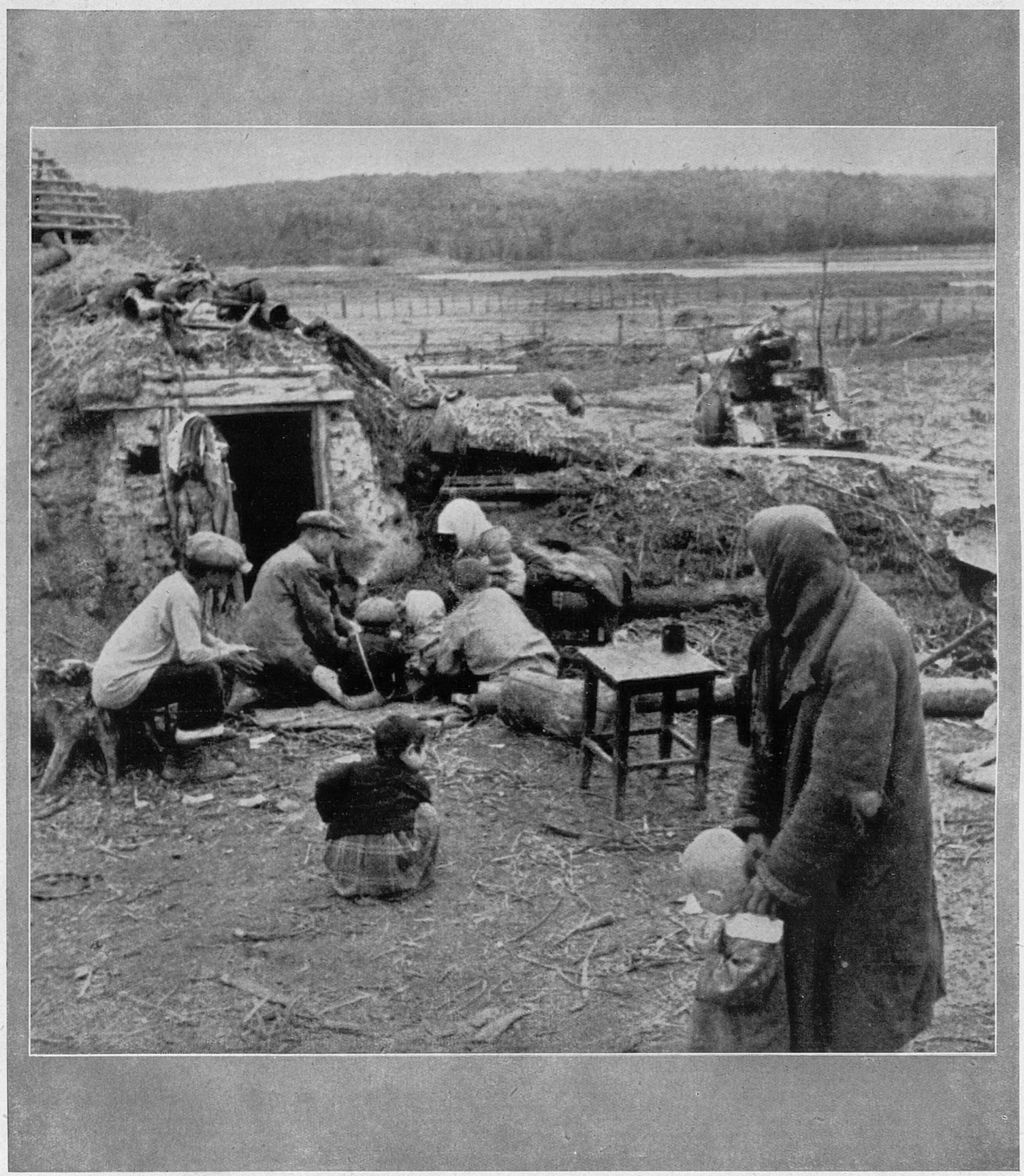


THE ROVER COMPANY LTD. COVENTRY AND LONDON

CVS—373

Volume CLXX No. 2222 The SPHERE, London, August 22, 1942

THE SPHERE
With which is incorporated "THE GRAPHIC"
The Empire's Illustrated Weekly



A TELLING PICTURE FROM THE RUSSIAN BATTLE-FRONT: RUSSIAN FARMERS, DRIVEN FROM THEIR HOMES IN THE PATH OF THE GERMAN ADVANCE, NOW HUDDLE IN CRUDE DUG-OUTS ON THE PLAINS, SEVERAL FAMILIES SHELTERING IN EACH

Great tracts of territory have had to be surrendered to the Germans on the Eastern Front: although not much reference has been made to the subject, the civilian population of our Soviet ally have suffered cruelly in consequence. Driven out of their homes before the advancing German hordes, the peasants and their families have had to flee to regions where their lives, at least, are safe, and where they are spared the harsh treatment habitually meted out by the Germans to their civilian captives. The one-time farmers now huddle in dug-outs, several families in each, or in such temporary shelters as may be found on the steppes, until plans can be made for their reassimilation elsewhere. In the majority of cases, little has been salvaged beyond a handful of personal belongings, and life for the refugees has become primitive in the extreme. When the snows and frosts of winter return to the plains, it will no longer be possible to use this style of habitation

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A WAR NEWSLETTER —No. 155

1, NEW OXFORD STREET, W.C.1.

The Right Note.—All the prophets were agreed, and all justified, when they told us in early summer that the few months following would be as full of anxiety and danger as any in history. It is true. The picture we look at is tense and dark and high-light reliefs are hard to seek. In the Caucasus the German advance seems irresistible and ever more dangerous, and it is natural that our thoughts are centred on all that Russia has lost, on all the dangers which face her and, therefore, ourselves, and on the crucial, cruel time-lag in Allied diversionary measures. Stalemate in Egypt is disappointing and, do as we will, we cannot prevent Rommel's reinforcements keeping pace with our own. If the Atlantic battle has eased in intensity, we are led to expect an intensification in other seas. The American attacks on the two wings of the Japanese Pacific gains are being strenuously resisted. And, in India, the arrest of Gandhi and the consequent outbreaks of mob violence cannot fail to hearten our enemies and weaken our war effort in India and elsewhere. The picture is black. We must not, however, exaggerate its blackness. People in a better position than ourselves to see it as a whole have pointed to certain high lights. For instance, if the people of Germany distrust Nazi triumphs, we may do so also. The Russians, for all they have lost, have not lost the will to victory, nor used up their considerable reserves in men and material, while the strain on the Nazi machine grows ever greater as does its vulnerability to counter-stroke. Its gains in wheat and oil-bearing lands are potential rather than actual for another crucial year at least. Mr. Amery believes that the Indian Government will cope with the mob violence loosed by Gandhi's political gamble. The stalemate in Egypt is proving more costly on land and sea for the Nazis than for ourselves, and for the moment we are in the better position for making good deficiencies. What struck me as the most cheerful item in a very black phase were the tone and simplicity of the President's (and other American leaders') appeal to the American public to redouble their efforts. These frank, simple, modest appeals and progress reports, in a world of boost and bluff and lying, struck an encouraging note of resolution and realism. And there are other heartening pointers that Mr. Roosevelt has realised and taken measures to satisfy the inevitable disappointment of the hard-pressed Russian people over the (to them inexplicable) delay in relief by diversion on the part of their Allies. We realise now, and the Russians will soon realise, that food will henceforth rank with guns, tanks and planes and military diversions as as a prime necessity of Allied help.

England and America.—The importance of Britons and Americans understanding each other and the distinguishing characteristics of their natures and institutions, is a premise the importance of which none can possibly deny. The difficulties in the way of a right understanding are not remotely comprehended as yet. In many ways we in Britain are "more foreign than the foreigner" to the Middle West American, and his point of view may be as little comprehended by a majority of our race. It is good to observe with what care and shrewdness and fairmindedness the American Government has tried to make us known to their soldiers in Britain. One instance of the difficulties and (one may even add) the fog of suspicion to be dissipated was vividly brought out by Raymond Gram Swing in a recent broadcast. The subject was the jurisdiction of the American Military Courts in this country, discussed in the British Parliament. If ever a subject was debated in an English House of Parliament with tact, liberality, breadth of view, toleration *and almost bated breath*, this subject was. Yet the reports of the debate in the American Press produced in Mr. Swing—a man we regard as an understanding friend of England—a sense of irritation that comes from instances of "patronising." I read the full report of that debate and I could not see in it a scintilla, a hint, a suggestion, which could cause irritation to the thinnest skin. Its theme seemed to me rather the glorification of the judicial institutions and the noble characters of two great nations, the greatest perhaps on earth. But, there it was . . . and if Mr. Swing was irritated, what of hundreds of thousands in the Middle West who read their own favourite journals and accept as gospel (as so many do in Britain) the partial reports therein published? This instance underlines the difficulties ahead. Only tact, restraint (and more of both) can sweep them away. But swept away they must, and shall, be.

THE DUCHESS OF GLOUCESTER AT THE EXHIBITION OF WAR PHOTOGRAPHS IN REGENT STREET

Our enterprising contemporary, "Illustrated," has organised a novel and exceedingly interesting Exhibition of War Photographs at the Dorland Hall in Regent Street in aid of the Red Cross Penny-a-Week Fund. The picture we reproduce here was taken as H.R.H. the Duchess of Gloucester inspected this fine show: with the Duchess is Lord Southwood, the Chairman of the Fund

Trust Nobody.—I often observe that a Briton tardily converted to a "new religion" becomes always a fanatic. But he does not permanently lose his common sense, even in bureaucracy, and after the first wave of fanaticism, a sense of proportion and even of humour usually infiltrates again. Superimposed upon a world harassed and flooded with forms and dotted lines, the new fanaticism now directs the sudden discovery that all forms of fuel must be saved. (Many of the public appealed for such economy as long ago as 1939.) Petrol, for example. The new fanaticism naturally invents new forms. Every motorist must keep the most elaborate records. Journeys "to duty" must be distinguished from journeys "on duty." The number of any Board of Trade voucher in hand at the end of a month must be furnished "together with its value in gallons." You may stop (and waste petrol) to take up a pedestrian on a "to-duty" journey but it is not yet settled if you may do so on an "on-duty" journey. And so on. *Solvitur ambulando.* The bureaucrato-fanatics are yet in an early stage of the disease—the "trust-nobody" stage. In a month or so it will be borne in on them that the desire to burn petrol is no longer widespread and rampant in the general public. On the contrary. We have worn out our cars in the service of the State, and now they are very precious relics. We cannot replace them and we only take them out when we positively must. If these snow-storms of forms get worse, the certain result will be—indeed, must be—that we shall have to abandon the war jobs and so-called essential services we have tried to carry on and must withdraw our cars from the service of the Home Guard and defence services. For, positively, we have reached saturation-point in official inquisition and form-filling. Let us hope that the principle of "trust-nobody" will die a natural death of sheer exhaustion and absurdity.

Waterloo Bridge.—I recall (not as "only yesterday," but as from a previous existence) a time when fighting about the designs of Waterloo Bridge was campaigning enough for the nation. It was "total war," and every sort of devastating device was employed on either side. Since those days, I have watched, through cracks in Hungerford Bridge—that useful eyesore—in peace and in war, the growth of the new bridge which now is open to traffic. We must wait for peace to see if the jeremiads of the critics were justified. Wartime transport will not prove or disprove the warnings that the new bridge would worse confound the traffic of Kingsway and its environs. The war is still with us, and London's immunity from bombing may not continue when longer nights enable Bomber Command to prove their words that no gentlemen's agreement spares the citizens of Berlin, whom American journalist best-sellers always describe as remarkably jittery under night bombing. Meanwhile, work on the bridge continued through the London "blitz" and was completed in the immunity period which succeeded it. An act of courage and devotion to duty; still more an act of faith. True, bridges seem to be harder to hit than battleships. *Vide* the Hohenzollern at Cologne. Still, an act of faith by London! And try to imagine what junketing the L.C.C. would have staged round the bridge-ends on the opening day if we had been at peace!

A Trollope Letter.—I, too, hoped that Messrs. Sotheby would take reasonable precautions not to market at its "sensation value" that curious letter from Trollope to Miss Sankey in which he sounded her on the question of marriage, in the lifetime of his wife, who was a healthy woman and to whom he was attached by ties of true affection and faithfulness. It was impossible for anyone who is reasonably informed about Trollope's life, character and literary methods not to smell a rat, though what sort of rat is another matter. Who was Miss Sankey? A humorous old maid or a child of ten? One may not relish that type of joke whether mature or of the Lewis Carroll or Barrie type. But every generation has its peculiar style of humour which is often distasteful to the next. Whatever the explanation, I shall be surprised if proofs be forthcoming that the letter is genuine and intended to be taken at its face value. Trollope was the sanest man alive and full of restraint and common sense. Nor did he ever lapse. And that letter is devoid of all those qualities.

Scotland Without Tears.

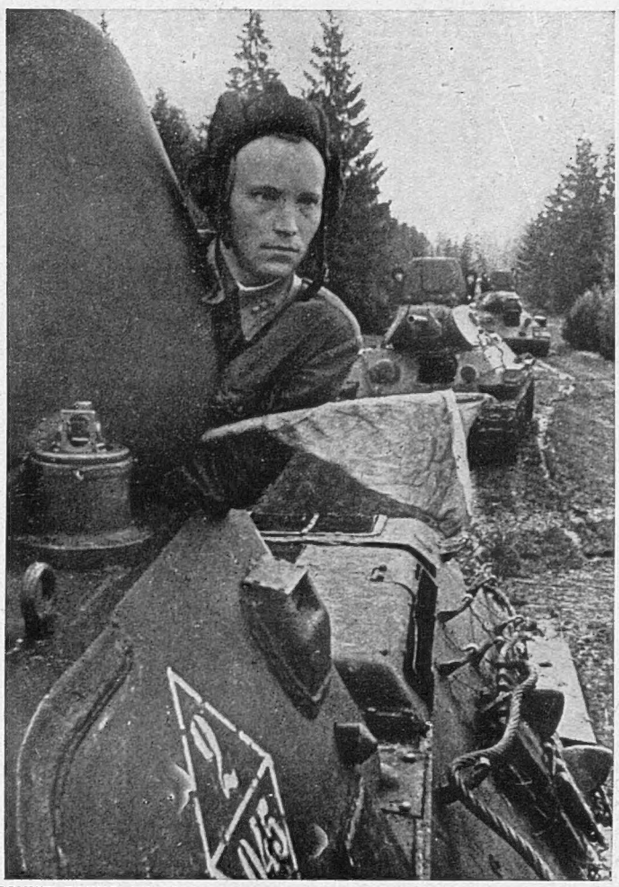
Apropos to my recent discourse on holidays of imagination, I venture to recommend to any reader who may to-day suffer as I do from a seasonable and uncontrollable longing for the Highlands, a story called *Orders to Poach*, by Olivia Fitzroy, published by Collins. Miss Fitzroy is a young girl with a passion for the Western Highlands and its wild life, and with a remarkable power of bringing across the atmosphere of that wild and remote mainland east of Skye. The authoress modestly limits the interest of her story to readers of eighteen years or under. There I quarrel with her. It kept a man nearing sixty awake into the small hours. There is a touch of *Castle Blair* in her recipe; a little of Buchan, but not too much of him; a seasoning of *The Golden Age*; the wisdom and observation of old St. John; and, permeating all, the very essence of the atmosphere of a summer holiday in the wilds of Ross-shire. If you can't make Ross-shire this autumn, make Ross-shire and your dreams and your memories of happier, saner days come to you between neat green linen boards.

THE OLD STAGER

NEW PICTURES FROM RUSSIA

—Warfare by Balloon, Tank, Pontoon, and Parachute

SOVIET BALLOON OBSERVERS DIRECT ARTILLERY FIRE ON THE ENEMY: The use of captive balloons has been extremely limited, but on certain static sections of the Russian front our Allies have been employing them for correcting the fire of Red Army batteries



SOVIET TANKS ON THEIR WAY UP TO THE FRONT: A whole column is here seen on the move. Note the massive upper turrets; and also the firmness of the ground, dried out by the summer sun

THE CREW OF A RUSSIAN ARMOURED TRAIN lined up in front of it before leaving for the front: The train, "Soviet Armenia," was built by the men of a workshop of the Moscow Railway Junction, with funds collected by the working people of the Armenian Republic

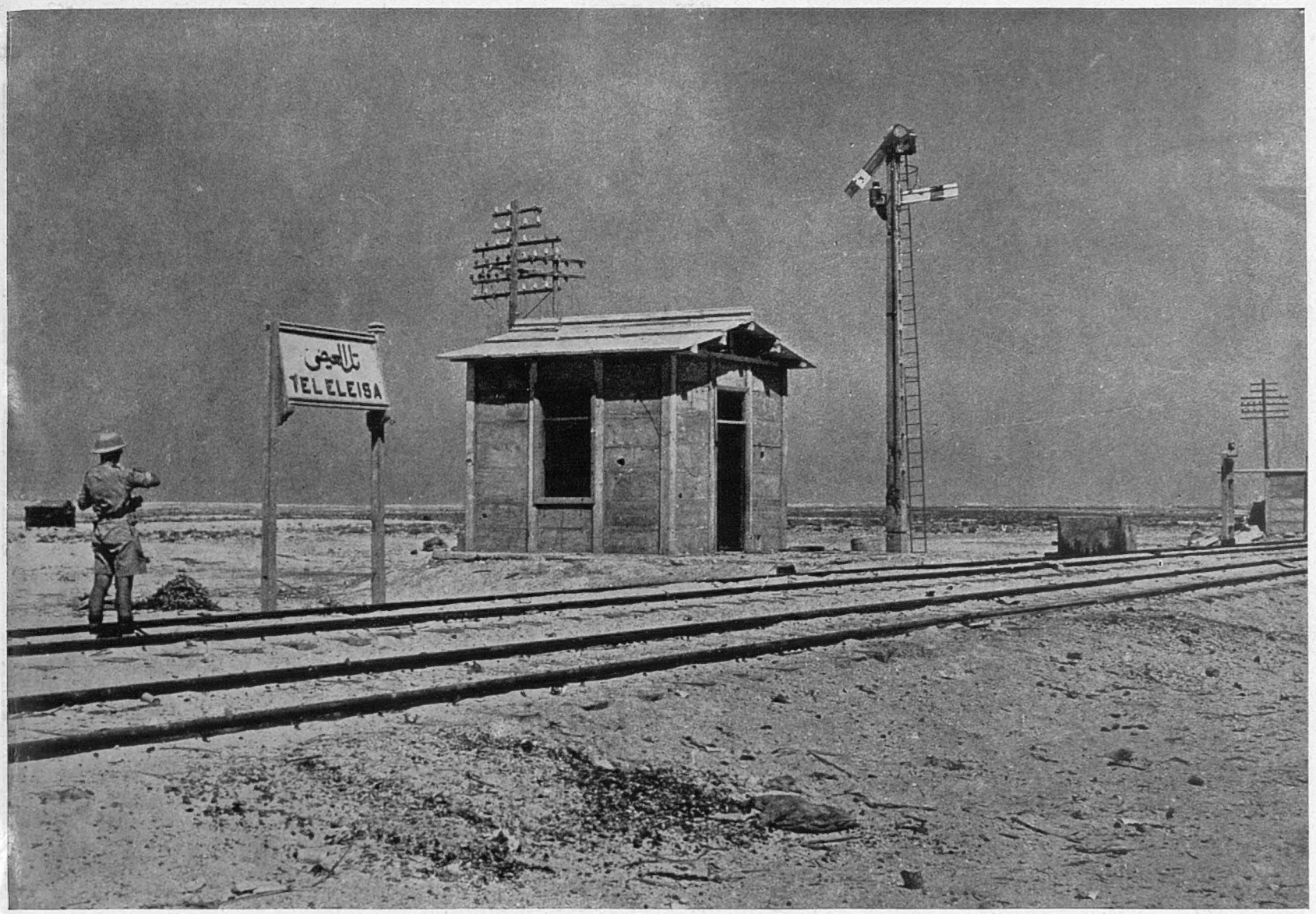
PONTOON CREWS OF THE RED ARMY, preparing their equipment. Certain areas of the front are of such a marshy character that operations by pontoon are frequently carried out

RED ARMY PARACHUTISTS LEAVING FOR A RAID: An air-borne detachment of Russian soldiers preparing to board a big troop-carrier, whilst an officer issues last-minute instructions. This is the type of warfare which the Russians were the first to exploit some years ago: it was subsequently taken up by the Germans who demonstrated its value in Poland, Norway, France, Crete and elsewhere

THE SCENE OF BATTLE IN EGYPT: Recent Official Pictures from the Alamein Fron

FIRE IS THE CURSE OF THE DESERT: A burning vehicle gives away valuable information to the enemy, and usually results in further bombing and more troubl The desert fire-fighters have to get to work at once on any vehicle set on fire: here the driver of an armoured car is shovelling sand on to tyres whic have been set alight as the result of a bombardment

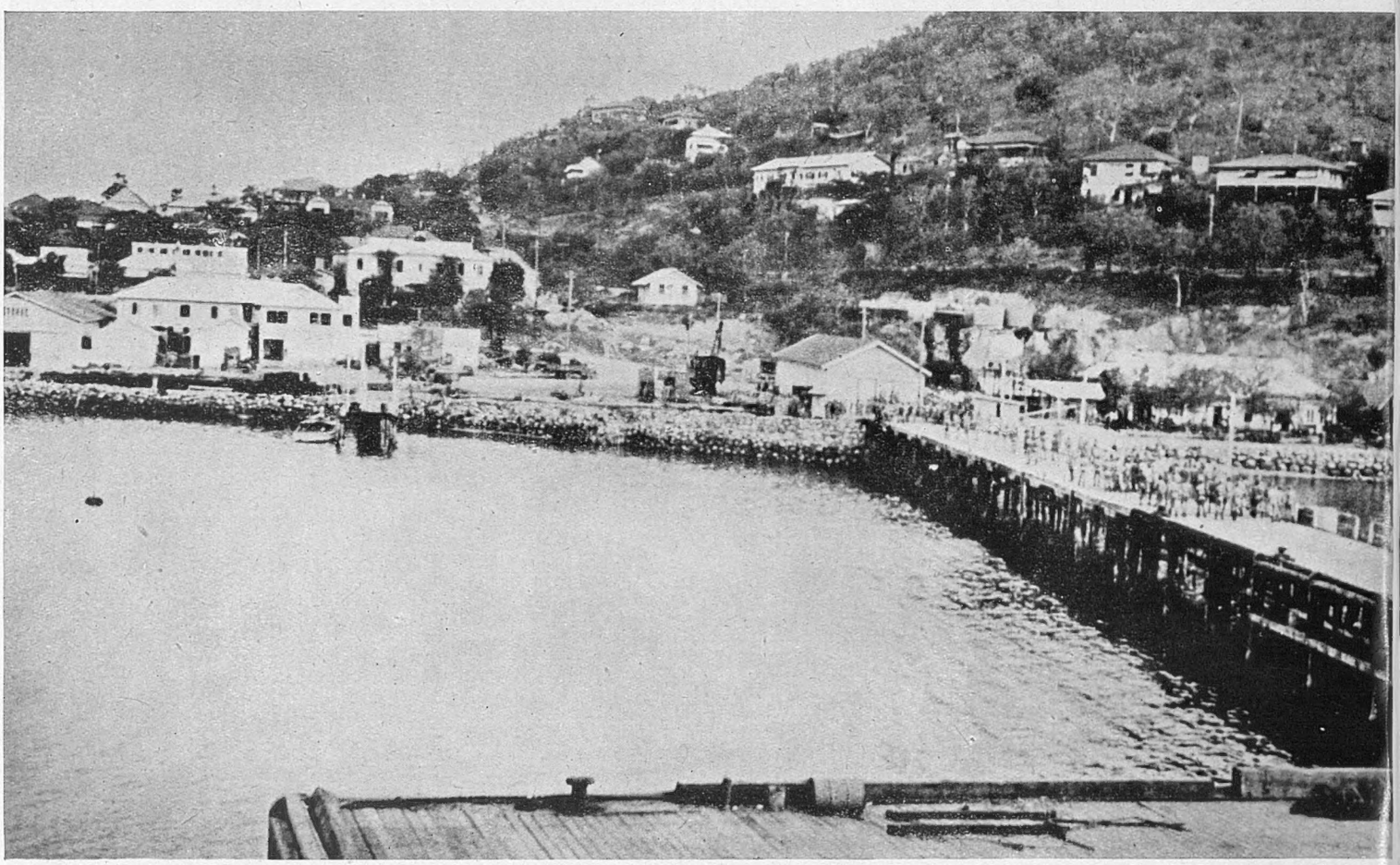
A WATER-POINT IN THE DESERT: In these vast canvas bags is stored the water for the desert fighters. It is seldom that this splendid supply serv has failed to deliver its gallon per man per day. A gallon gives a lick and a spit in the morning, a shave every other day, a water-bottle in reserve a tea whenever there is a break and fifteen minutes for making it



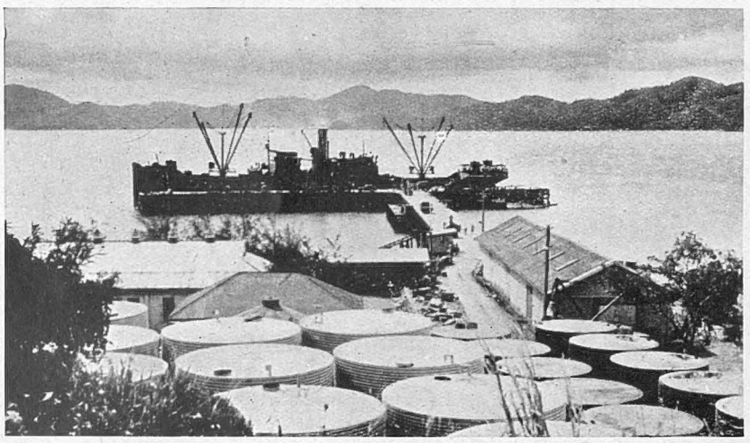
THE "STATION" AT TEL-EL-EISA, SCENE OF FURIOUS DESERT FIGHTING: This has been the scene of the fiercest fighting in Egypt, during which the site has changed hands a number of times, with the result that the ground around is littered with disabled and burnt-out vehicles. The "Station" is now being dismantled, and the wood used for headpieces and crosses for the many graves which lie around

A VIEW OF A PART OF THE QATTARA DEPRESSION, WHICH GUARDS THE FLANK OF THE 8TH ARMY. This area has been described as "worth twenty Divisions" to the British. It lies about 30 miles south of El Alamein and forms a natural obstacle for an advancing army. It is composed of soft sand, bogs and salt-flats which are impassable for motor transport. The Depression is actually some hundreds of feet below sea-level

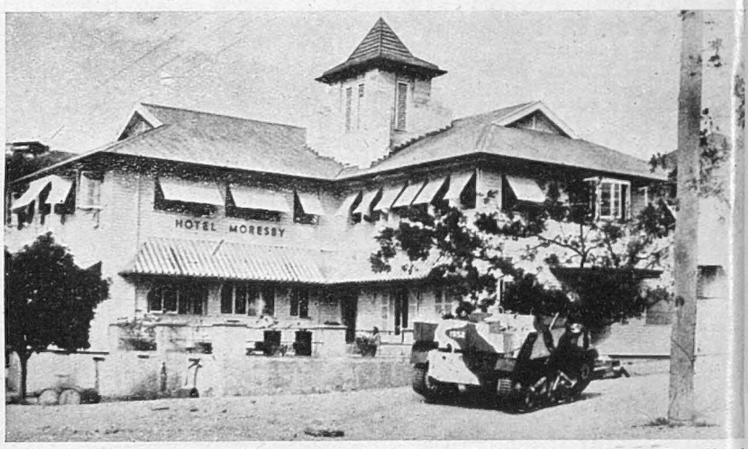
THE STRUGGLE IN THE PACIFIC—Scenes at Port Moresby and Dutch Harbour



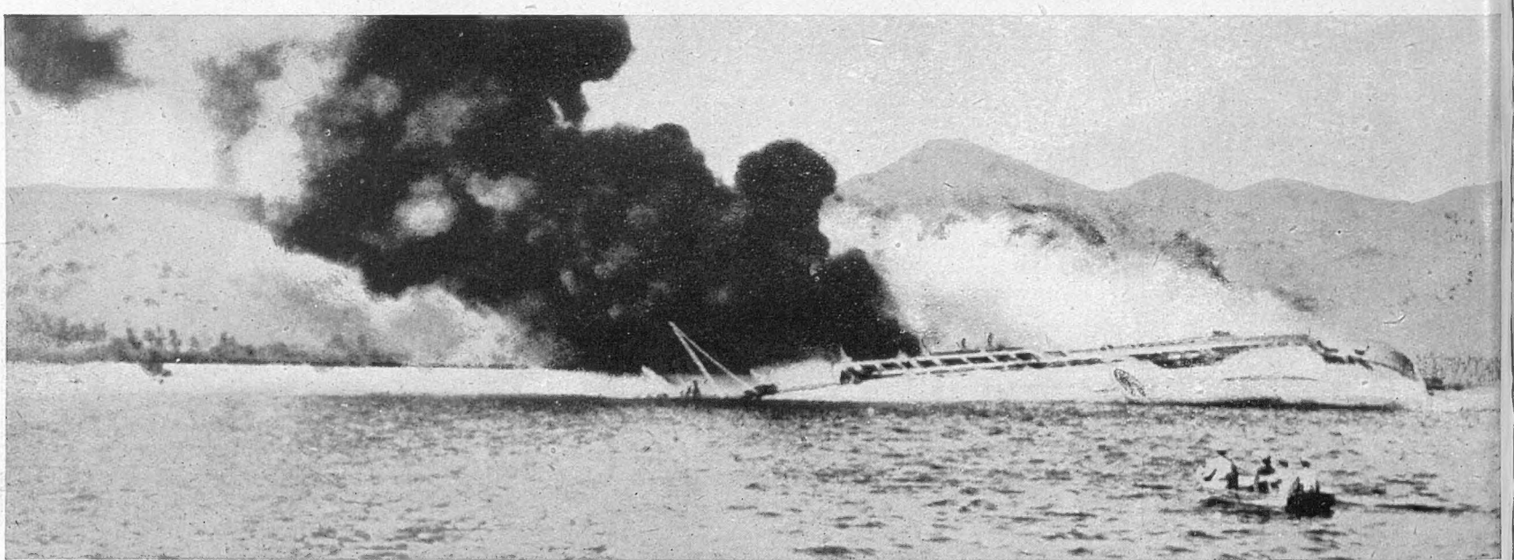
THIS IS THE TOWN AND HARBOUR AT PORT MORESBY, IN NEW GUINEA, which has been bombarded from the air by Japanese aircraft for many weeks past. When this picture was taken further reinforcements of Australians had just landed to help in the land defence against the Jap infantry who are advancing across the north-eastern portion of the Island



AN ALLIED SHIP DOCKS AT PORT MORESBY: In the foreground are oil-storage tanks, one of the targets of the Jap bombers during their many raids

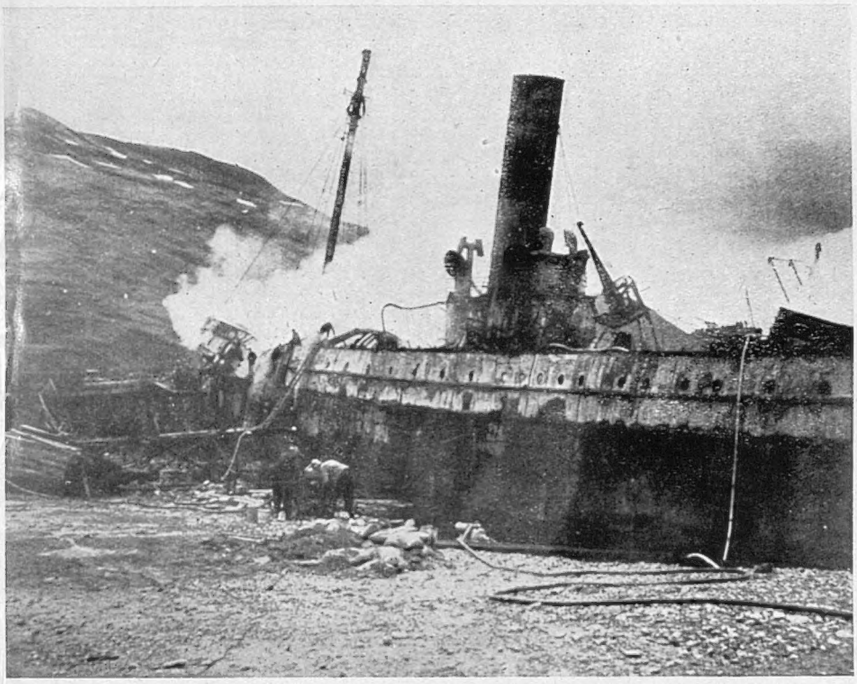


THIS IS THE BIGGEST AND BEST HOTEL in the New Guinea capital—The Hotel Moresby, with a newly landed Australian Bren carrier passing by

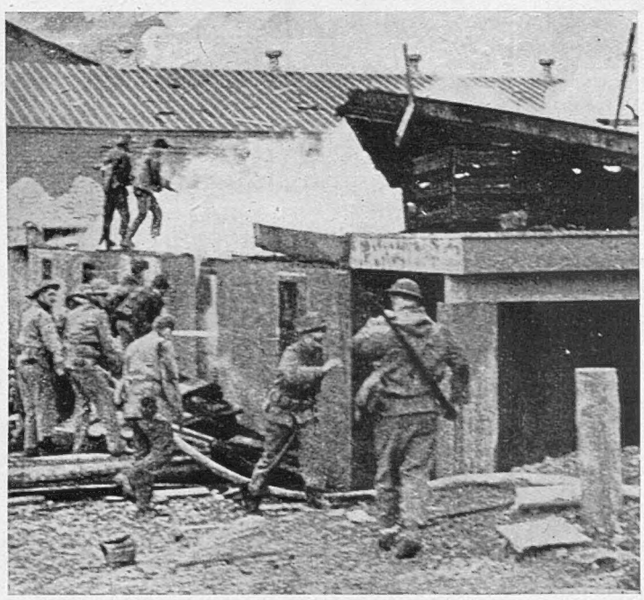


AFTER TWO DAYS OF JAP BOMBING, this Australian transport is shown on the reef where she drifted after repeated hits. She was set afire and is burning furiously: the lifeboat in the foreground was searching for survivors when the picture was taken. The lifeboat dangling over the side of the stricken vessel was rendered useless by an oil explosion as the men were about to use it. To the left, the dense bank of smoke is from oil burning on the water

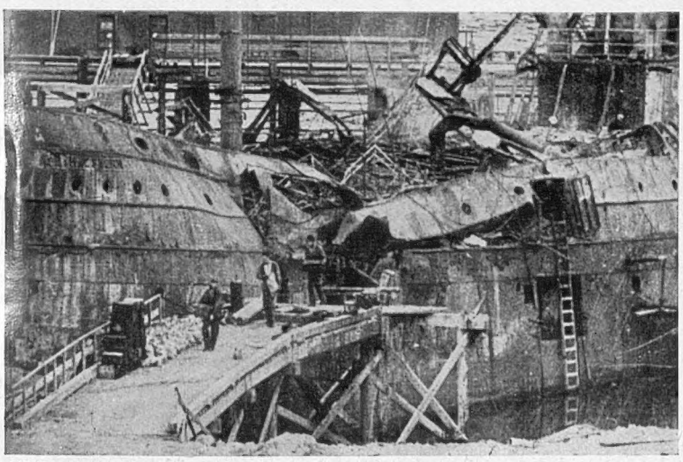
THE MAIN STREET ON THE WATERFRONT AT DUTCH HARBOUR, the U.S. naval base in the Aleutians. The church is Russian and so are the old cannon: both were left behind after the purchase of Alaska by the United States. Dutch Harbour was attacked by units of the Jap Air Force on June 3 and again the next day, but damage was reported to be slight



THE S.S. "NORTH WESTERN," depot ship at Dutch Harbour, is still smoking after the fire which followed bomb hits scored by the Japs during their air raids on June 3 and 4

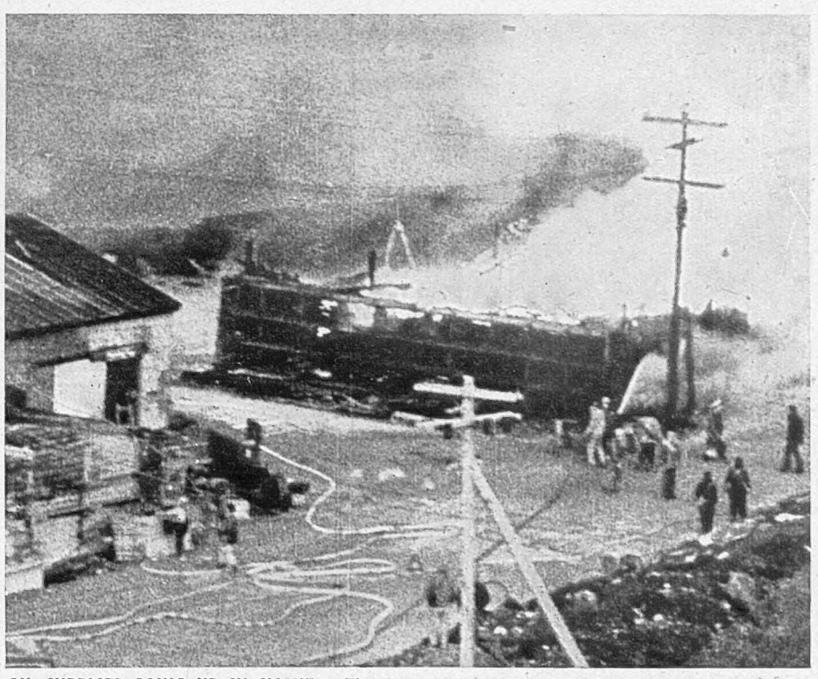


U.S. SOLDIERS AND MARINES QUELL A FIRE caused by bombs during the second raid on Dutch Harbour. In addition to the depot ship, shown in the picture on the left, only a few buildings were destroyed by the two air attacks



ANOTHER VIEW OF THE AGED "NORTH WESTERN," which had been beached and was being used as a barracks for construction-workers

After Pearl Harbour, the naval base of the U.S. Fleet in Hawaii, Dutch Harbour comes next in importance. It is situated in the Aleutians, the crescent-shaped string of islands which juts out from the Alaska mainland towards Siberia. At 6 a.m. on June 3 four Japanese bombers, escorted by fifteen fighters (presumably operating from an aircraft-carrier) raided the base. Six hours later other enemy planes flew over on reconnaissance. On the following day, the performance was repeated. Later, the Japs put out a grandiloquent statement about the "reduction of enemy positions." In actual fact, the damage done was slight: a depot ship was sunk, and slight damage was caused to buildings, as indicated in our pictures here. Some days later, another attempt was made by the Japs—this time at the island of Kiska, where landings were effected



OIL SUPPLIES GOING UP IN SMOKE. The first raid on Dutch Harbour did little damage: This U.S. Navy photograph was taken just after the second raid on June 4

THE AIRCRAFT-CARRIER ENGLAND

When the Americans Occupy their 150 Airfields in Britain, the Joint Bombing of Germany Will Become a Terrifying Thing. If the U.S. Air Forces Pursue Their Intention of "Coventrating" Enemy Towns and Industries there are Plenty of First-class Targets in the Reich, Some of which are Indicated Here

By FERDINAND TUOHY

AMERICANS prominent in the war effort are visualising this sceptred isle in the forthcoming role of an Atlantic Malta—as a huge, unsinkable aircraft-carrier for mammoth attack on Germany. The always air-minded Americans are spurred by the belief that Anglo-American strategy in Europe had best repose on a massive softening of Germany administered from the air. But U.S. aerial enthusiasm also derives from a vision: that of a great air fleet, built to circumvent the U-boat as well as to bomb, being swiftly converted so as to lead the world's air merchant services with the return of peace.

Things will assuredly begin to hum over the aircraft-carrier England—and I mean England which would provide the great bulk of the deck-space—should the Americans live up to their reported goal of a total in Britain of 400,000 air personnel operating in connection with 150 airfields. As for the likely density of American aircraft over here, one may make one's deduction from broadcaster Kaltenborn, who, on a one-day hop from Washington to the B.B.C., informed the German people that the United States would be turning out 125,000 planes in the coming twelve months, having manufactured 60,000 in the last.

Of course, the Americans love to talk big, and they are apt to lag behind "skeedule"; still, there's no reason to doubt the advent of the aircraft-carrier England, since she fits in with the natural law in mid-twentieth-century war-waging, and, in fact, looks like being launched with the leaves of autumn. General Spaatz's forecast indicates as much.

The influential Scripps-Howard syndicate reckons that America can double Air Marshal Harris's 1,000-bombers-a-night aggregate if two-thirds of current American bomber production is switched now to Britain. "This would give a joint starting force of 2,000 bombers, which could drop from 30,000 to 50,000 tons of bombs a month. A maximum of 150,000 tons of bombs dropped in three months on the thirty-one key towns which constitute Germany's industrial armament, would mean that 5,000 tons of bombs would be dropped on each of these towns, whereas 3,000 tons sufficed to devastate Cologne."

The snag in this is that bad weather conditions were given by the R.A.F. in explanation of their relatively-slight bombing of Germany last autumn and winter, a circumstance which must have been uppermost in many minds when people read Air Marshal Harris's confident prediction that the new attacks would go forward in rain, snow and storm. What of "bad visibility"? Even if perfected instruments should steer pilots adequately over wide target areas, there remains the bugbear of fog, over the airfields of Eastern England especially.

Incidentally, may I agree with "The Old Stager" that the one excuse for further warnings of this description should be that the Government *know* they are having effect, because, in my view, we've been overdoing the warning business since far-off Chamberlain days, when we used to warn most of Europe, until the warned ones took no notice and finally waxed merry. That warnings are sticking in the American gullet too, is shown by the following breezy cable: "Press reports British Air Marshal appeals German public overthrow Nazis and make peace otherwise Allied forces will bomb Reich end to end. This appeal is sanguinary nonsense. Would British or American public respond to similar request? Definitely no. When calling Air Ministry tell them to do it, not talk about it."

Meanwhile, the Anglo-American *intention* to "coventrate" German towns is questioned by some, who hold that more remunerative results would be obtained by dispersing part of the Allied striking force to bomb as many as eighty different localities in a night, thereby widely demoralising rural and semi-urban Germany and necessitating much additional A.-A. defence and personnel. The answer is that we are going by our own experience in 1940-41, when so-called "nuisance" raids—a bad name in the ears of those who suffer loss in them—didn't affect the war effort, whereas devastating heavy raids decidedly did.

There could, therefore, be healthier places on the planet in forthcoming months than the following:

Berlin	Rheinhausen	Mannheim
Hamburg	Duisberg	Stuttgart
Bremen	Wuppertal	Hanover
Wilhelmshaven	Hamborn	Magdeburg
Bremerhaven	Essen	Osnabrück
Aachen	Mülheim	Chemnitz
Cologne	Bochum	Leipzig
Dortmund	Ruhrort	Breslau
Saarbrücken	(All the Ruhr)	Königsberg
Düsseldorf	Frankfurt	Stettin
Oberhausen	Ludwigshaven	

PILOTS OF THE UNITED STATES ARMY AIR CORPS train with the R.A.F. in Northern Ireland: Flying British aircraft, the pilots and American ground crews are gaining a thorough knowledge of our aeroplanes and equipment and operational methods. This picture, composed of both R.A.F. and U.S. pilots, comes from a training station in Ulster. Some American pilots have already taken part with the R.A.F. in actual operational flights over Europe

This list is chiefly drawn up on the premise that Allied bomber squadrons will go after war output at source:

1. Immobile heavy basic industries such as steel, iron and shipbuilding.
2. Essential public-utility services in the principal cities and towns of the war effort.
3. Transport services and junctions.
4. Coal- and lignite-mines (from lignite come oil, nitrate and power).
5. Chemical, electricity and engineering plant and special war factories.
6. Light metals and alloys linked to power-stations.

Hitler has moved some of his war industries to the East, but there is a strict limit to what he can do in this line, because so much plant must remain close to the fuel sources which feed it. Also the condition of the railways is bad enough, without their being submitted to the further strain of transporting gigantic plant and all the workpeople and their belongings from one end of Germany to the other.

Some towns which have recently been "coventrated" are omitted: Rostov, Lübeck, Münster. Other places have either not yet been bombed (Breslau, Chemnitz, Leipzig), or only slightly (Stuttgart, Frankfurt, Munich). Stuttgart is the home of magnetos, and Frankfurt of ball-bearings, while Munich, oddly enough, is signalled as being restive, in part owing to the incursion of Ruhr and Rhineland evacuees. At Leipzig might be provoked a Paternoster Row holocaust calculated to reduce Goebbel's printed output. But where does Germany's clothing industry now congregate? Many years ago, 2,500,000 workers were employed in it, and you may bet your rationed pinafore that clothing and textiles are working all-out to keep Hitler's Army a second winter in Russia.

Then there is this matter: Must immunity be granted *ad infinitum* to one or two places vastly aiding Germany's war effort, while not situated inside the pre-war Reich? Strasbourg's big modern docks play a vital part in Germany's inland waterways system. Liége's arms factories and the Briey (Lorraine) iron-ore basin need not be respected any more than is the Skoda armament works in Czechoslovakia. If the purpose is to bring down German war industry, Hitler has so juggled with it over this and that frontier that a much closer following-up is indicated.

A more ticklish problem is presented by the water-power which Sweden and Switzerland are exporting to the Reich in ever greater quantities. Germany is so taxed that she is bending every effort to reduce her wastage of energy. This is the moment these two neutrals further energise Hitler's war effort by a more lavish export of water-power. Do they ever stall, play for time? One would like to hear of it.

Implicit in the massive bombing at source of Germany's might is the destructions of those essentials without which a sizable community cannot carry on: water, light, sewage, gas, transport, food, shelter. Cripple the ordinary to and fro of daily life in key-towns, and the effect is only less than if one knocked out the local war factories. German workers have been warned that their residential districts near factories and workshops will be laid waste as part of policy.

Concerning this whole side of "coventrating" Germany (a practice which the Germans never will understand they themselves taught), we shall be a lot wiser a few months hence. Some say German stock will endure even as British did. Others deny it. Even if they show guts, say the sanguine ones, the Germans will be borne down by things which were spared us: undernourishment, lack of heat, widespread casualty grief, cheerlessness, the feeling that humanity hates them, weariness from chronic overwork, and, not least, by the *Luftschutzkellergestapo* touring its grim repression round the shelters, arresting for a mere phrase. They intend to arrest, apparently, for not going down into shelters, and even for gaping at ruins.

There will be no sustaining sense of fun in German shelters.

And Himmler's A.R.P. must learn its job under infinitely heavier bombing than that which taught our Civil Defence first to toddle and then to stand on its feet.

We shall see. . . .

We shall also probably see lots of fireworks on the deck of the aircraft-carrier England as the *Luftwaffe* replies in kind, a recrudescence, maybe, of 1940-41, since the Nazis will not be able to fool the German people all winter by saying they are "coventrating" England when they're doing nothing of the kind.

It is only common sense to expect a return of heavy German bombing and the warning to run over existing regulations and to tighten up, generally, is thoroughly justified.

Germans are said to be already reckoning that, should victory elude them, the *Luftwaffe* will sock Britain's war industries and towns at least in equal proportion to Anglo-American socking of Germany, and that then Britons and Germans, facing one another in their mutually-crippled state, will elect to call it a day. But this is to overlook that the *Luftwaffe*, with its heavier rate of bomber loss, should be exhausted before the R.A.F., and that, anyway, American bombers fresh off the production lines will continue to alight in profusion on the deck of the aircraft-carrier England whatever the mutual weakness of Germany and Britain adduced by prospective bombing.

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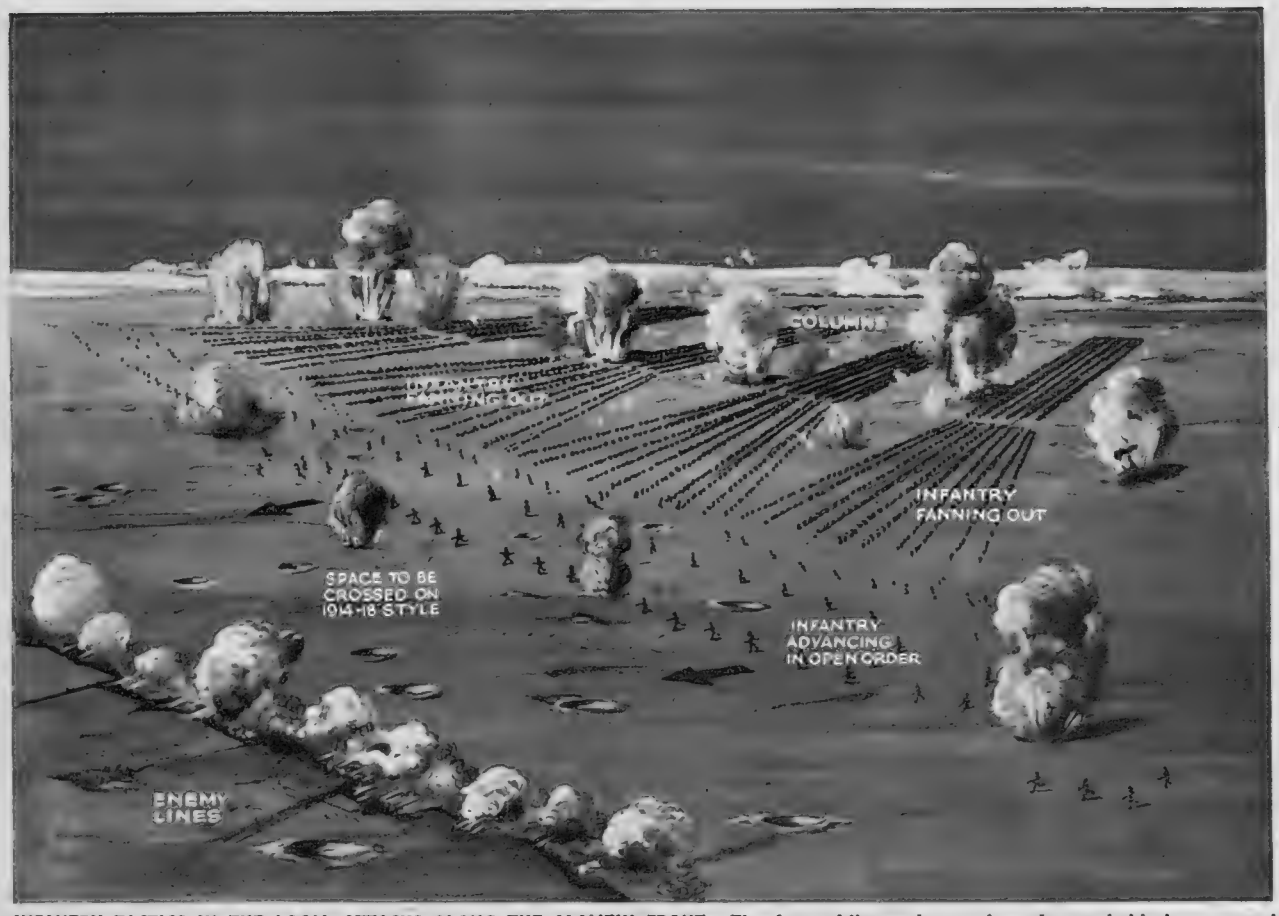
centre, round Ruweisat, and the southern flank of the front. The best way of taking ridges, in any type of war, is by getting round them as far as possible and then creeping up in fairly open line. A column trying to mount a ridge like Roman road-builders would suffer great casualties. So men advanced in the 1914-18 fashion again.

In that rather abortive minor offensive of the last week of July the Indians and New Zealanders were mainly engaged, and there was one occasion when, in the words of a correspondent, the New Zealanders "trudged on," mounting the rocky spurs and rooting out enemy posts indomitably, till they apparently found themselves without sufficient artillery and tank support, and had to come back.

Undoubtedly the whole character of tactics in the entire war, in Russia as well as in the Western Desert, is gradually changing again, as a result, of course, of a stiffening in the power of defence, especially the anti-tank defence. We hear repeatedly of tanks crawling forward slowly with infantry behind them, and of tanks being dug in and converted into strong-points. But it would be unwise to deduce from the Western Desert fighting of the El Alamein phase that "cavalry" tactics are finished.

Theoretically it should only be necessary for Auchinleck or Rommel to be supplied with an overwhelmingly strong force of new tanks for a break-through to be quickly achieved and the battle to go streaking away once more. (In which connection we must be particularly wary of a sudden attempt by Rommel to sweep round south of the Qattara Depression and thus enter the Nile Valley from the south-west, outflanking our entire position.)



INFANTRY TACTICS IN THE LOCAL ATTACKS ALONG THE ALAMEIN FRONT: The foot-soldiers advance in columns behind armoured cars and supported by tanks, and then fan out into open order. The last stretches of desert are crossed in a manner reminiscent of the tactics of the 1914-18 war—*Drawing by E. G. Lambert* (See *article herewith*)

But there is something in the methods of General Auchinleck that demands respect. He has always been noted for a Haig-like quality of conservatism and tenaciousness. He served his apprenticeship in the days of trench warfare, and there is no doubt that his strong personality has already cast a spell over the entire battlefield, even extending to the Germans. That initial choice of the narrow El Alamein position started it, but there may be something more than that in recent developments. What, for instance, would be the use of getting back to the Libyan frontier again if a Panzer counter-attack by Rommel were to roll us up once more, and the silly pendulum business be repeated *ad lib.*? Next time, we must conquer *and hold*.

It is possible that Auchinleck has deliberately revived some tactics of the last war, such as advancing in line instead of infiltrating by column, so as to ensure that necessary condition of the future Libyan war. Can one not envisage some combination of slow-advancing linear infantry and artillery, with the keeping of a strong tank force in reserve to deal with Panzer counter-attacks? It might point the way to an even wider victory.

In the meantime, one cannot praise too highly the enterprise and tenacity of the infantry—British, South African, Australian and New Zealand alike. They have responded in every way as worthily as their fathers during the bitter fighting of the 1914-18 war; and their use of the bayonet has been as efficient and ruthless.

THE METHOD OF ATTACK NOW BEING EVOLVED BY INFANTRY OF THE 8TH ARMY IN EGYPT: In front of the advancing foot-soldiers, equipped with the traditional rifle and bayonet, go the armoured cars; on the flanks are our supporting heavy tanks to crush the opposition of enemy strong-points. By this means gaps can be forced in the Axis lines, which can be consolidated by the infantry—*Drawing by W. G. Whitaker* (See *article herewith*)

THE DUST-STORMS ABOVE THE FIGHTING AREA GREATLY HAMPER THE WORK OF THE BOMBERS AND FIGHTERS: The columns of dust, rising in the heated air, impede the bombers' vision, and also interfere with the work of the fighters patrolling over our land forces below—*Drawing by Roland Davies*

DUST in the DESERT:

A Nuisance on the Alamein Front Which Affects Both Man and Machine

—Special Sphere Drawings

DUST-CLOUDS FORMED BY A MOVING CONVOY: The storms of dust, with which both sides have been afflicted in Egypt, have been largely formed by the heavy traffic across the desert. The vehicles break up the surface and provide masses of clay-dust and light sand, which then rise as fog-clouds—*Drawing by Roland Davies*

Whilst the 8th Army was interlocked in combat in Libya, the operations of all arms—infantry, tanks and Air Force—were frequently hindered by dust- and sand-storms of varying size and intensity. The same conditions have, on occasion, also occurred on the El Alamein front; but here a new set of conditions have developed, in which the dust-storm became a greater nuisance than the more familiar sand-storm of the open desert.

Local dust-storms have been blowing up with great frequency, largely owing to the breaking-up of the surface by tanks, armoured cars, lorries and other vehicles. At ground-level the reduction of visibility owing to local dust hanging in the air has been such that tanks and other mechanised vehicles have had to rely frequently upon the compass to get them safely to a desired position.

Not only are the land-force operations affected by dust, but the pilots and crews of machines operating over the fighting area have been likewise affected. All too frequently the communiqués from Cairo have intimated that air operations have been seriously hampered by dust-storms. Columns of dust rising in the heated air have from day to day obscured from the vision of observers the position of enemy troops and supply columns. An open patch will occur at intervals, but very often these spaces are not large enough to be useful to an observer in a reconnaissance plane.

Not only does this dust attempt to aid the sand in clogging any mechanism it can get at, but this Egyptian dust is not like the clean, golden material of the Libyan Desert, but is contaminated with unhealthy particles due to the proximity of the Delta.

***Below*—A TANK CONTEST IN THE DESERT, amid the all-pervading dust of the battlefield area**

—Drawing by Roland Davies

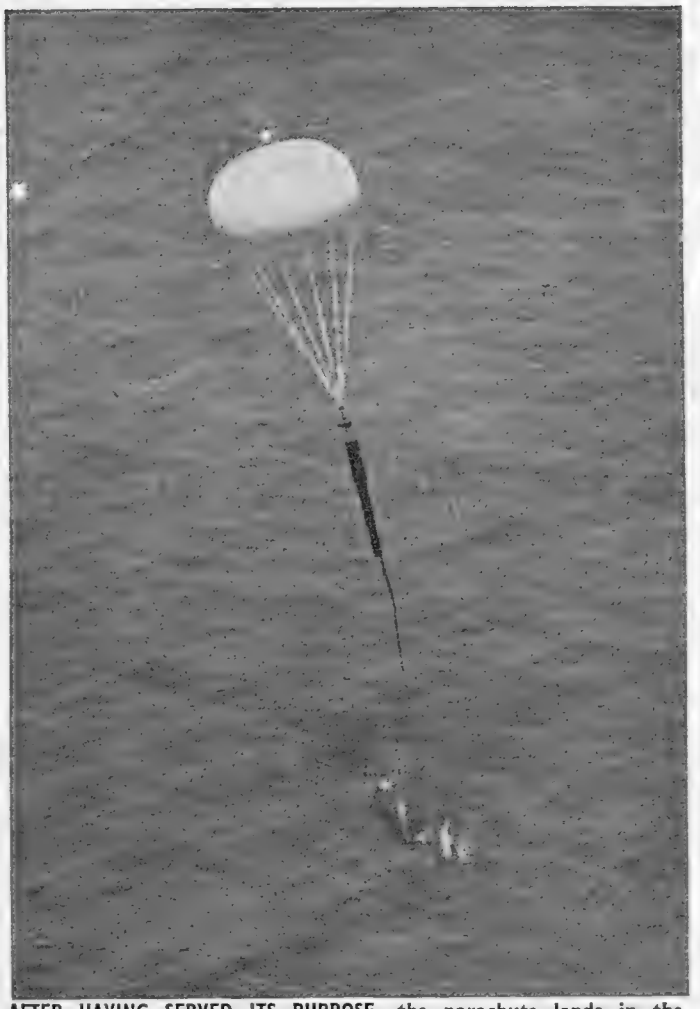
Two members of the crew of a damaged British tank have climbed out to inspect the extent of the damage, when they are suddenly attacked by machine-gun fire from a German vehicle which has moved up on the right under cover of a dust cloud. Another British tank, coming up to the rescue, intervenes, however: it is seen above at point-blank range firing tracer shells from the left into the intruder. The whole action takes place amidst the enshrouding dust and sand which attacks both machines and men in Egypt

THE WAR BY AIR

The Daylight Raid on St. Malo; The Merchant Navy's New Rocket Apparatus

FIRING THE NEW ROCKET APPARATUS from the deck of a merchantman: This is one of Britain's new "Surprise Weapons"

One of the new "surprise weapons" being used by the Merchant Navy against attacking enemy aircraft at sea is the rocket gun. The projectiles which they launch into the air are definitely not liked by the *Luftwaffe*! They carry up with them long wires supported by parachutes so that they remain in position for an appreciable time. The method of using them is to time and place their discharge so that the attacking bomber must either swerve from its bombing position or become entangled with the wires and thus destroyed. Once the pilot swerves, his bombs drop harmlessly into the sea or he must carry them back home to his base. The parachutes, having fulfilled their function, can later be salvaged

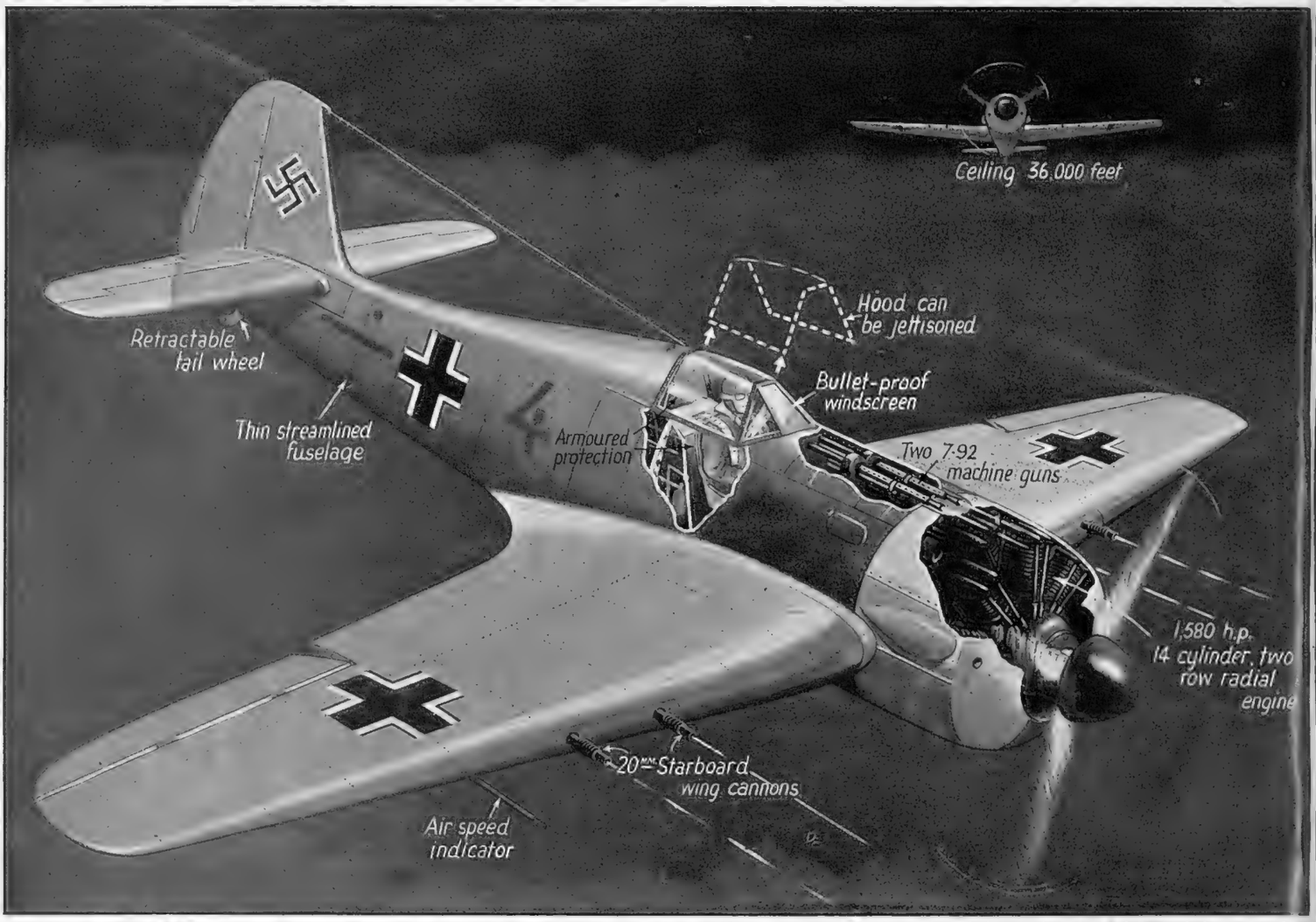


AFTER HAVING SERVED ITS PURPOSE, the parachute lands in the sea, from where it is then salvaged for further use

ST. MALO IS SUBJECTED TO ATTACK BY R.A.F. BOSTONS during a daylight raid carried out on July 31, when a continuous attack was made on German communications in Western Europe for a period of over thirty-six hours—*An official Air Ministry photograph*

Ports, supply routes in the North Sea, and railways in occupied countries were subjected by the R.A.F. to continuous attack for a period of thirty-six hours after the devastating raid on Saarbrücken on July 29. One of the places heavily raided was St. Malo, one of the busiest ports in north-west France. The Boston bombers went over in daylight, escorted by fighters, and unloaded their bombs on harbour works and installations. Cameras carried in the aircraft took pictures during the attack, and one of these is reproduced *above*. At least sixteen bomb bursts can be seen in and around the Bassin Duguay Trouin—eleven of which are in, or adjacent to, a shipbuilder's yard. Of the bursts in the Bassin itself, one is a near miss on a 300 ft. motor vessel, another is a near miss on three barges on the opposite side of the basin, and a third is either on the stern or on the quay alongside a motor vessel of 250-300 ft.

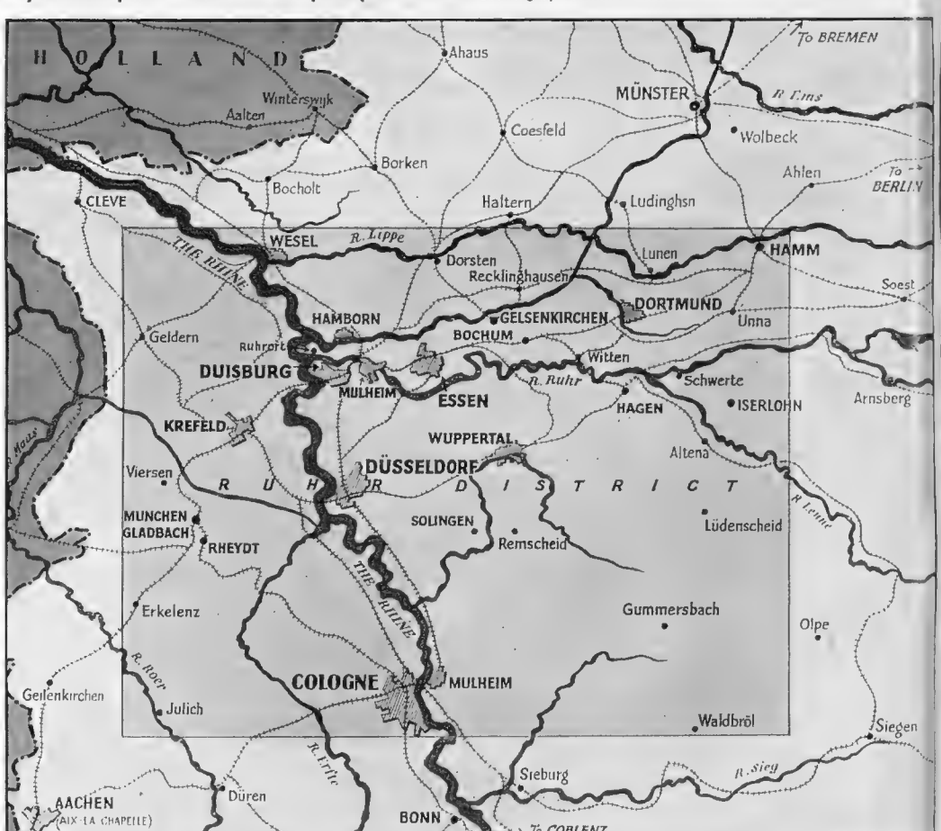
NEW DEVELOPMENTS IN THE WAR BY AIR



DETAILS OF THE FOCKE-WULF 190, GERMANY'S LATEST FIGHTER AIRCRAFT : A sample of this type was recently captured intact by the R.A.F. and has now been thoroughly examined and tested by British pilots. Here are its principal features—*Drawing by L. Ashwell Wood*

In last week's issue we published pictures of the F.W. 190 in flight and on the ground : these can now be supplemented by the detail-drawing by Mr. Wood reproduced *above*. The new aircraft is acknowledged by experts to be the best produced by German designers, and it has proved a formidable challenger to the Spitfire : the latter has, nevertheless, been proved to be more manœuvrable. In proof whereof, it is known that up to a few weeks ago no fewer than 120 F.W. 190's have been lost to the enemy. This newest German fighter has a maximum speed of 375 m.p.h. at its best height (18,000 ft.), and 326 m.p.h. at 4,500 ft. : it can climb 3,280 ft. a minute at 17,500 ft. It is a small machine—only 29 ft. 4 ins. long, with a wing span of 34 ft. 5 ins. Despite that workmanship is rough in places, it is the cleanest aircraft aerodynamically that Germany has yet evolved in single-seat fighters. The B.M.W. 801 engine—fourteen cylinders in two rows and of radial type—is a surprise, developing, as it does, some 1,580 h.p. for take-off. The armament consists of two 7·92 machine-guns firing through the propeller, and four 20-mm. cannon-guns in the wings outside the airscrew arc. A novel feature is the small hood, which can be jettisoned if the pilot gets into difficulties.

THIS IS THE NEW AMERICAN-BUILT THUNDERBOLT, "fastest single-engined plane in the world" : The above is one of the first pictures to be received in London from New York of the American-built Republic P-47, or Thunderbolt, said to be the world's fastest fighter aircraft. It is reported that the Thunderbolt has achieved 680 m.p.h. in a power-dive test and over 400 m.p.h. in level flight. It is capable of carrying its heavy armour, large- and small-calibre guns and 2,000 h.p. Pratt-Whitney engine to an altitude of 40,000 ft., using turbo-superchargers. It is an all-metal aircraft and is now in production for the U.S. Army Air Force



THE GREAT INDUSTRIAL BELT KNOWN AS "THE RUHR," the constant target of the R.A.F. in their increasing offensive against the most vital area in the whole of Germany : Of all the areas of Germany, this district of the Ruhr is amongst the most vital, for here are concentrated coal-mines and steel works and armament factories vital to the enemy's war effort—to say nothing of railways, rivers and canals which bear a tremendous volume of urgent traffic. It is not possible (contrary to the belief of some) to transfer all these vital industries elsewhere. The drawing *on the right* by Mr. Roland Davies illustrates the effect of our big bombs during a recent attack on Düsseldorf in the Ruhr area. From the air each bursting "two-tonner" presented the picture of a giant red "mushroom." At the height of the raid there were many of these "mushrooms" created simultaneously. "I saw three big bombs land," a member of one crew said on his return. "The effect must have been terrible." At the same time the hundreds of thousands of incendiaries were having an equally terrifying effect. Fires were springing up everywhere, merging swiftly into lakes of fire

CARGOES BY AIR: The plan evolved by Mr. Henry J. Kaiser, American engineer and shipbuilder, to build a huge air fleet to overcome the shortage of shipping. His scheme is to construct 70-ton flying-boats to a very great number—*Drawing by Wm. McDowell* (See notes below)

TWO-TON BOMBS OVER THE RUHR: An incident during the bombing of Düsseldorf—three great red "mushrooms" rising from the factory buildings as the giant 4,000-lb. bombs explode fair and square on their target—*Drawing by Roland Davies*

Mr. Henry J. Kaiser is an American engineer of very great achievement: his recent accomplishment of turning out big cargo-vessels in a remarkably short space of time (although he has had but little previous experience of shipbuilding) demonstrates that he is not an idle theorist.

To make up the present acute shortage of shipping, Mr. Kaiser has proposed the construction of a fleet of aircraft to act as cargo carriers and thus supply the various theatres of war quickly and fully. Taking the 70-ton Mars flying-boat, designed by the Glenn-Martin Company, as the most suitable type, Mr. Kaiser has put forward a plan for the construction of 500 of these under mass production: it is likely that he will receive an initial order for 100 of them from the U.S. Navy.

"Ships and shipbuilding cannot do the transport jobs the war demands," says Mr. Kaiser. "A Liberty ship can make only ten knots at her best, and in convoy that is reduced to eight knots. The Glenn-Martin Mars, redesigned as a transport, can carry 20 tons of cargo. In the same forty-day period, this air cargo-ship, making more than two round trips a week over the same stretch of ocean, can deliver 300 tons of cargo. Twenty such planes could equal the performance of a Liberty ship. Five thousand of them will give us a cargo-carrying capacity equivalent to 250 Liberty ships."

But here is one criticism of his scheme, which comes from Mr. McDowell, the artist of the above drawing: "Assuming that a merchant ship carrying 3,000 tons of cargo can make the round transatlantic trip in twenty days, and a cargo-aircraft, carrying 20 tons, can make it in three days, it would then require a fleet of some twenty-two of the latter to equal the carrying capacity of the ship. Moreover, the aircraft is much more dependent on good weather conditioning. Taking into account all such factors as fuel costs, the length of life of the aircraft and the fact that the aircraft would probably require the services of a fighter escort for at least a part of the journey, to transport cargo by air would probably only be justified if the goods carried were both very valuable and urgently required."

LOADING UP AMERICA'S LATEST AIR-TRANSPORT PLANE, the 25-ton Curtiss Commando: A picture of this giant in flight in the air was reproduced in this journal last week. The Commando—the largest twin-engined air liner of its kind in the world—is designed to carry large numbers of fully-equipped soldiers. It can also accommodate "Jeep" reconnaissance cars: one of these is here being driven straight aboard by means of a special ramp at the tail of the aircraft

RESCUE IN GREENLAND

One of the Most Remarkable Air Adventures of the War: The Story of a Bomber Crew Who Were Marooned for Forty-five Days

An aircraft crew of the R.A.F. Ferry Command, who were missing for forty-five days, have just been brought back from Greenland in a United States Navy flying-boat. The flight, disappearance and rescue comprise one of the most remarkable air adventures of the war. The crew, who are normally engaged in delivering American-built bombers across the Atlantic to Britain, consisted of J. Shaw Webb, of Vermont, U.S.A., pilot; Pilot Officer R. Franks, of Slough, navigator; and Louis A. Cadwell, of Uxbridge, wireless operator.

They had flown a Hudson bomber from Montreal to Newfoundland, and were waiting to take it to Britain, when an urgent call came for a survey sortie over North-West Greenland. This task was allotted to them, with instructions that, when completed, they should fly on to Reykjavik, the capital of Iceland. The mission was accomplished, and a report made to base by wireless. But the aircraft never reached Iceland. On the journey across Greenland, nightmare conditions were encountered—dense sleet, icing and an intense electric storm which threw the compass into confusion and made wireless communication impossible. Astral bearings could not be obtained because of low black clouds, and for hours the Hudson was drifting on guesswork navigation.

HOW THE R.A.F. FERRY COMMAND KEEP TRACK OF THEIR AIRCRAFT on the transatlantic crossing: One of the key points of the whole organisation—the Controllers' Desk and the Movements Board at Transatlantic Flight Control. All but four of the aircraft shown were actually in flight over various spots in the Atlantic when this picture was taken. Notice that one of the top aircraft has landed only twelve minutes later than its E.T.A. (Estimated Time of Arrival)—and this after a 3,000-mile journey! It is work of this exceptionally high standard which makes for the smooth functioning of Ferry Command

A FERRY PILOT at the controls of a Liberator, complete with oxygen mask, "parka" hood and the cold-weather kit worn on 20,000-ft.-high crossings

The plight of the crew became worse when one of the bomber's two engines faltered, and finally stopped. The petrol-gauges became dangerously low, and an emergency landing was desperately necessary. For an hour the bomber flew at 50 ft. over the Greenland ice-cap, while the captain searched the switchback terrain in vain for a possible place to descend. There was no choice left but to come down on one of the ice-covered sheets of inland water, in the hope that the ice would bear. The bomber had been flying for twelve hours—considerably beyond its formal duration power—the surviving engine was seriously overheated and fuel was practically exhausted.

But the moment the wheels touched the ice, they broke through. Almost a miracle happened then. The silent engine came into action again, and, by skilful airmanship, the captain was able to lift the aircraft from the water. Then he tried to land on another stretch of ice-coated water. The same thing happened: the ice gave way on impact, but again the pilot took the Hudson into the air. Only a few drops of petrol remained in the tanks. The crew were ordered to prepare for a crash landing. The inflation gear was made ready, so that if the aircraft again went through the ice it might remain buoyant sufficiently long for a dinghy to be launched.

As he was about to alight for the third time, the pilot saw that he was in a bowl surrounded by mountains, the lowest peak 5,000 ft. high. Looking towards them, he was astonished to see a flag-pole on one of the lower slopes. He made for it, but had to bring the aircraft down a mile short. For the moment, the crew thought they were in "luck's way" at last. They seemed to be settling down on thick ice covered with deep snow. It was an illusion. The snow covering was thin and the ice only 9 in. deep. The bomber had scarcely come to rest when it tilted forward, and, in the captain's words, "With a roar like thunder its nose crashed through the ice." The tail was almost vertical, but it gradually fell back until only the wings rested on the fringe of ice supported the dead weight of the aircraft. The Hudson was still at an angle, however, which made the inflation gear useless.

"We were getting ready to swim for it," he said, "when we heard and saw something of a kind which only happens in story-books. Dashing towards us across the wilderness of mountains, ice and water was a team of dogs—huskies—and behind them a line of men."

They were men of an American detachment who had come to establish a post there eight months before, had been marooned from the world since, and were waiting until the coastal ice cleared so that a ship might come through to them. Eskimos came up with the Americans. It was a ten-million-to-one chance that the Hudson crew came down at this spot. There were no other human beings for over 500 miles in any direction.

A FORCED LANDING ON SNOW AND THIN ICE—How a Hudson on the transatlantic crossing crashed in Greenland. But—a short distance away were men of an American detachment who had established a post there eight months before. Truly a "ten-million-to-one chance," as it has been described!—*Drawing by Edward Osmond*

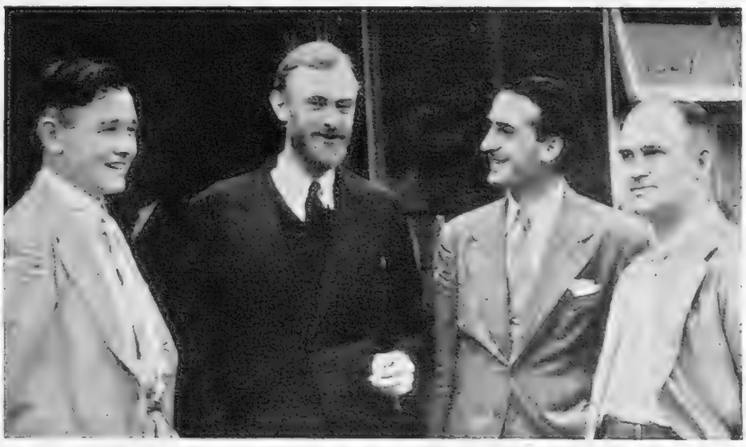
It was obvious that the bomber would sink in less than half an hour, so the Americans and Eskimos harnessed the huskies to the task of salvaging the equipment that could be removed. Everything removable was taken off, including the wireless set, before the aircraft disappeared in the water. The aircraft crew made their first task the improvisation of a wireless transmitter, and, with parts of their own set, and "bits and pieces" borrowed from the Americans and Eskimos, they succeeded. But the faint signals they were able to send out were heard only by bombers flying the Atlantic to Britain. When they reached England, these aircraft reported the mystery signals, and gradually the R.A.F. experts were able to locate their source.

Aircraft were sent out to investigate, but, when they reached the spot, they saw a device laid out on the ice warning them against attempting to land. When the Ferry Command crew had been with the Americans and Eskimos for forty-five days, an 80-mile-an-hour gale sprang up and blew away the ice for several miles, leaving a first-class landing-place for a flying-boat. Then, hour after hour, signals were made that rescue was now possible.

Next day, a U.S. Navy Catalina appeared, alighted, and took aboard the Hudson crew. The flying-boat brought eight months' mail for the Americans.

TWO HAPPY RESCUES AT SEA

THE U.S. COASTGUARD TO THE RESCUE : The survivors of a freighter torpedoed and sunk by an enemy submarine off the Atlantic coast wave happily as a surf-boat from a coastguard station approaches to take them to safety. Whilst the freighter crew was taken ashore, however, a submarine-chaser was speeding over the adjacent waters in search of the U-boat, as well as to inform coastal points and to discover other lifeboats with possible survivors.



THEY ENJOYED THEIR ELEVEN DAYS IN AN OPEN BOAT : Many stories have been told of the ordeals of survivors from torpedoed ships. Here is one that is different ! It is the story of how thirty-two British seamen spent eleven days travelling 400 miles in an open lifeboat—and enjoyed it. They plotted a course before their ship sank, and made provision for a fairly long voyage. None of them felt hungry, and they spent their time indulging in fishing. Once they caught a tarpon, but were not hungry enough to eat it. Each night parties were held, with two Welshmen leading the singing. This group shows four of the happy sailors—(left to right) G. T. Braithwaite (Liverpool) ; G. Charlton (Barrow-in-Furness) ; E. Warren (Hayes, Middlesex) ; and J. Cassells (Newbury)

The NAVY in ACTION in the ARCTIC

Two Special Sphere *Drawings of the North Russia Convoys*

Details have now been published of the recent gallant action in which escorting destroyers beat off five separate attacks on one of our North Russia convoys by a superior enemy force. (This action was referred to in a communiqué issued by the Admiralty on May 7, 1942.) The award of decorations to the commanding officers of the destroyers engaged has already been announced in the *London Gazette*.

Early on the afternoon of May 1, 1942, when the convoy was skirting a great patch of drift-ice, a force of three large destroyers was sighted. These were identified as enemy destroyers of the powerful Hans Lody or Narvik class. These destroyers are large, modern vessels armed with four or five 5-in. guns, and were faster and more heavily armed than any of the old destroyers opposed to them. In spite of this disparity in size, speed and weight of broadside, H.M.S. *Bulldog* at once led round to attack. Fire was opened at a range of about 10,000 yards, although visibility was poor, on account of frequent snow squalls.

The enemy appeared to concentrate fire on H.M.S. *Amazon*, which was hit and suffered some casualties and damage; but she was kept in action and remained in the line. The enemy were prevented from reaching a position to attack the convoy and forced to retire. About half an hour later the enemy were sighted again and once more the British destroyers were led in, and opened fire. They altered course directly towards the enemy, who turned away and disengaged.

By this time the convoy was well within the ice pack, and in order to maintain touch the escorts were taken through leads whenever opportunity occurred. At the same time, it was essential to have sea room to manœuvre when there was the possibility of the action being renewed. The enemy made a third attempt to reach the convoy about an hour later, but again the escorting destroyers immediately engaged and the enemy retired after a brief exchange of shots, in which none of the British ships were hit.

The convoy was now picking its way through heavy drift-ice. When the enemy destroyers made their fourth attack, approximately an hour later, it was noticed that their fire was far less accurate and intense, indicating that they had received some damage. Only one of the enemy continued to fire full salvoes. As before, the German destroyers retired after a brief exchange, their intention evidently being to avoid making a direct attack on the convoy unless they had disabled the escorts.

The fifth and last attack followed half an hour later. Action was immediately joined, and the British destroyers endeavoured to engage at close range. The enemy destroyers at once broke off the action, and in less than ten minutes had disappeared in the thick weather. Further damage is thought to have been inflicted on the enemy in this final encounter.

These engagements were fought in conditions of extreme cold and low visibility, which imposed a severe strain on all concerned.

Though only light forces stood between him and the rich prize of the convoy, the enemy on each occasion failed to press his advantage, and when our forces endeavoured to close to decisive gun-range, he used his speed to break off the fight and to retire.

Below—**H.M. CRUISER "EDINBURGH," torpedoed and damaged on May 7 whilst escorting a North Russia convoy (she was lost altogether later), taken in tow in heavy weather on the following day:** "In the heavy seas," runs the official Admiralty narrative, "the tug was unable to keep H.M.S. *Edinburgh* on her course unaided, and H.M.S. *Gossamer* was therefore taken in tow astern of the cruiser to assist in steering." Towing a heavy ship is a job which, under good weather conditions, requires great skill: in bad weather, with a big sea running, it becomes a hazardous operation—particularly when the vessel being towed is crippled and unmanageable. If she cannot assist with her own engines, she is liable to fall off and the sudden strain may snap the tow-line, in spite of the spring buffers which are usually fitted on tugs. H.M.S. *Edinburgh* was an improved Southampton cruiser, built under the 1936 programme. She had a displacement of 10,000 tons and a speed of 32½ knots: her armament consisted of twelve 6-in. guns, twelve 4-in. A.-A. guns and twenty smaller weapons. She was capable of carrying three aircraft and was fitted with a catapult for launching them—*Drawing by Wm. McDowell*

H.M.S. "BULLDOG" GOES INTO ACTION: Five separate attacks were made by a superior enemy force on one of our North Russia convoys, but all were beaten off by four British destroyers. By their gallantry in this engagement—fought in heavy Arctic pack-ice—the escorting vessels saved a convoy which, it is stated, would have been a rich prize for the enemy

Drawing by Montague Dawson

The vessel in the foreground is the "Bulldog": in the middle distance is one of her sister-ships—*(See notes at left)*

THE LOSS OF H.M.S. "EDINBURGH"

(See drawing at left)

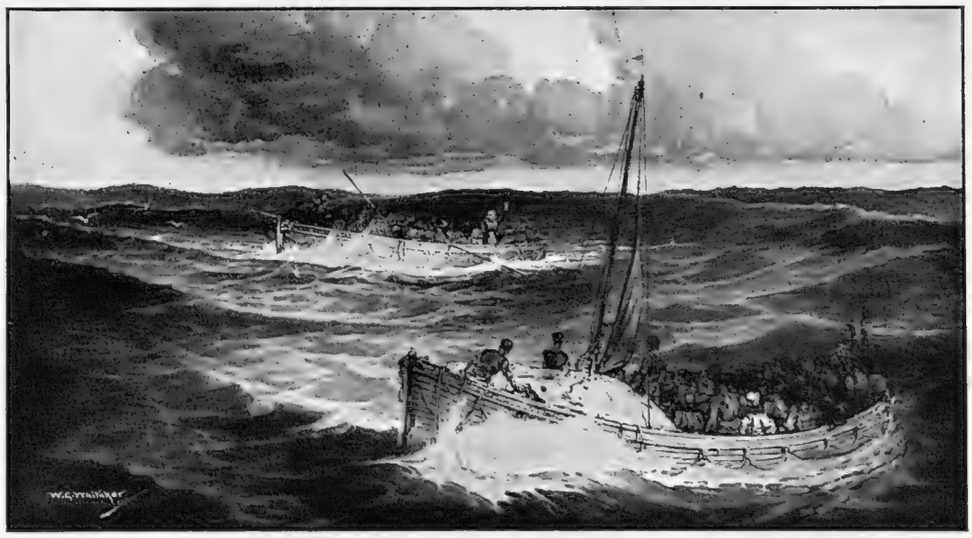
A communiqué issued by the Admiralty on May 7, 1942, announced the loss of the cruiser H.M.S. *Edinburgh* (Captain H. W. Faulkner, R.N.), which was torpedoed by a U-boat on April 30, 1942, while acting as part of the escort of a North Russia convoy. She was finally sunk by our own forces after being torpedoed again two days later. As announced in the Supplement to the *London Gazette* of July 30, 1942, the seamanship and courage displayed in this action have earned decorations for a number of officers of H.M.S. *Edinburgh* and ships which took part.

After the U-boat attack, which disabled H.M.S. *Edinburgh*'s steering-gear, the destroyers H.M.S. *Foresight* (Commander J. S. C. Salter, O.B.E., R.N.) and H.M.S. *Forester* (Lieut.-Commander G. P. Huddart, R.N.), and two Soviet destroyers came to her assistance. H.M.S. *Forester* took the damaged cruiser in tow, but owing to the heavy seas running, the tow parted almost immediately, and further attempts had to be abandoned. In order to assist H.M.S. *Edinburgh* to steer the desired course, H.M.S. *Foresight* was then taken in tow by the cruiser, which proceeded in this way for about sixteen hours.

The two Soviet destroyers then returned to harbour and, in order to maintain an efficient anti-submarine screen, it was necessary for H.M.S. *Foresight* to cast off and resume station. For the next twenty-three hours, valiant efforts were made to continue the voyage by skilful use of the engines.

There were many U-boats in the vicinity, awaiting an opportunity to attack the crippled ship, but the vigilance of the destroyers forestalled every attempt and drove them off. On the afternoon of May 1, a Soviet destroyer, and later four minesweepers, arrived with a tug. In the heavy seas the tug was unable to keep H.M.S. *Edinburgh* on her course unaided, and H.M.S. *Gossamer* (minesweeper) was therefore taken in tow astern of the cruiser to assist in steering.

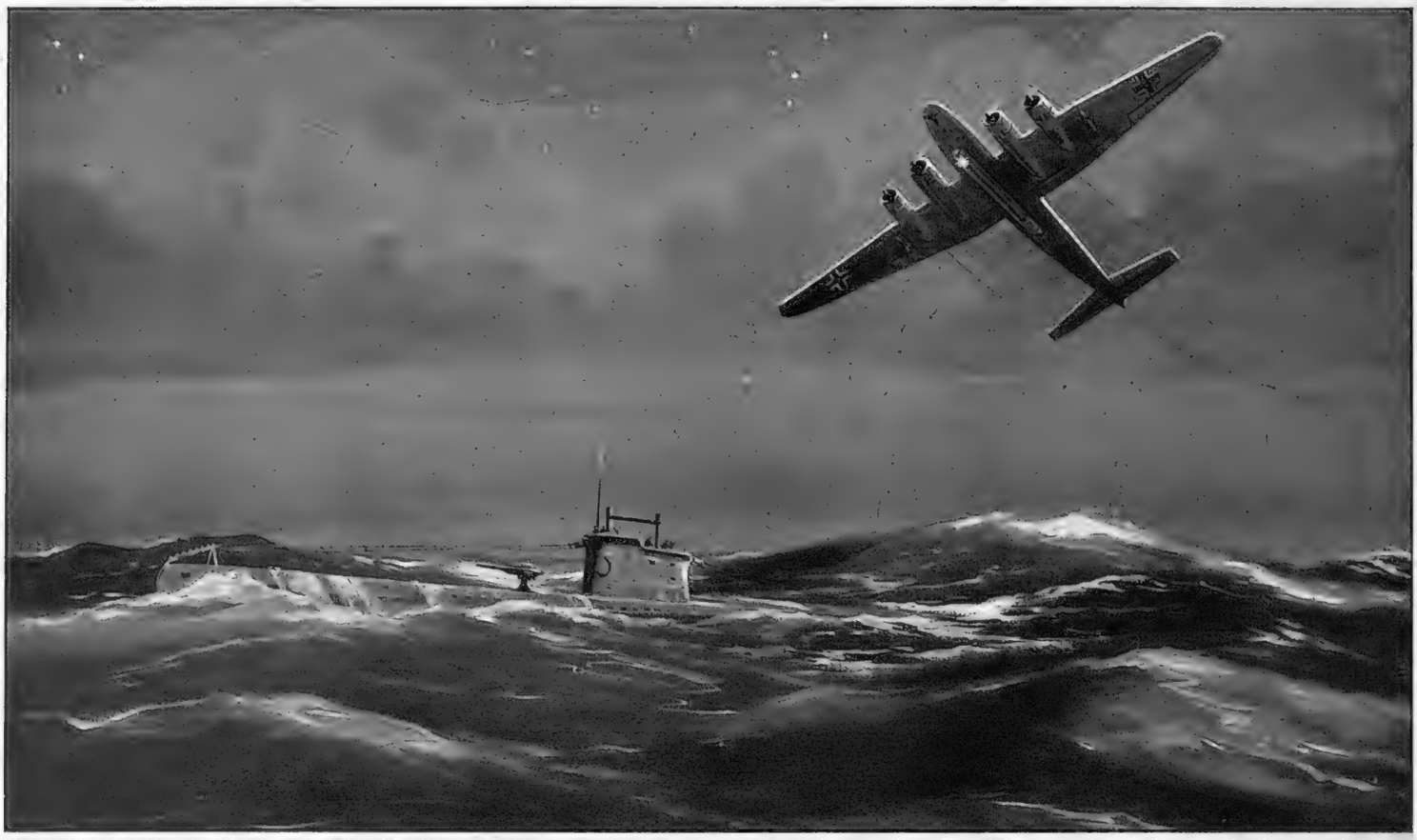
The enemy made several attempts to close H.M.S. *Edinburgh* under cover of smoke and snow-flurries, but was driven off. In a further attack, however, the enemy, who was only momentarily sighted, fired a salvo of torpedoes. H.M.S. *Edinburgh* succeeded in avoiding several of these, but at a critical moment she made an uncontrollable swing into the path of one torpedo, which struck her. One minesweeper immediately laid a smoke-screen to cover her, while two others closed the cruiser, and in spite of heavy seas went alongside. As H.M.S. *Edinburgh* was now unmanageable, all personnel except the guns' crews were taken off. Meanwhile, all the ships continued to engage the enemy whenever sighted. Subsequently, when it was found impracticable, on account of the weather and of her damaged condition, to continue the attempt to get H.M.S. *Edinburgh* into harbour, she was sunk by our own forces, after the remainder of the crew had been taken off.



THE SINKING OF THE "AVILA STAR" in the Atlantic—and the subsequent boat rescues after twenty days in a lifeboat—*Drawing by W. G. Whitaker*

When the liner *Avila Star* was torpedoed in the Atlantic, Mary Elizabeth Ferguson towed two firemen along in the water for 2½ hours before all three reached a submerged lifeboat. The chief officer then took them aboard his boat, but Mary Ferguson decided to join her friend, Patricia Traunton, in another boat.

The last sight of her before the two craft became separated was of a standing figure with her arms around Miss Traunton, covered with oil, but smiling and waving. After twenty days at sea, both girls reached the Azores; and both then volunteered to join the Forces in England



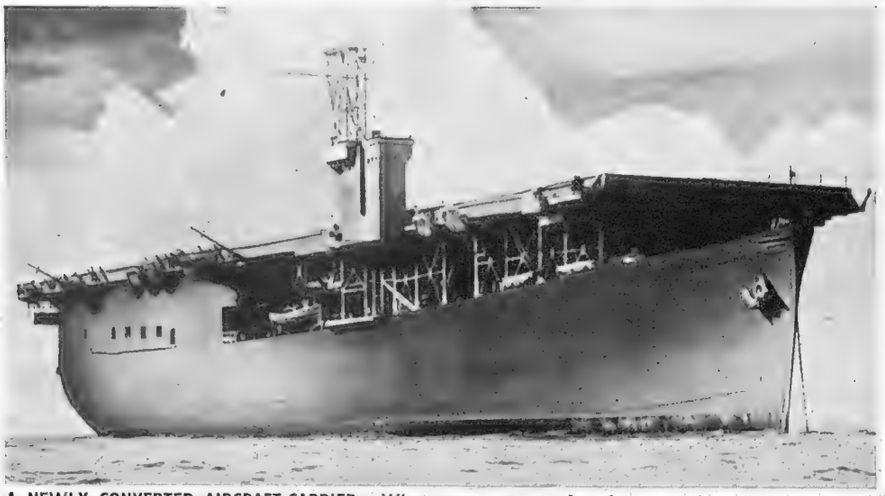
THE SPOTTERS FOR THE U-BOAT "PACKS" IN THE ATLANTIC—The Focke-Wulf F.W. 200K Kuriers usually take off from aerodromes between Bordeaux and Brest: they then fly non-stop around Ireland and North Scotland, to land in Norway. They can cruise for about 1,800 miles. A long bomb bay is slung under the fuselage, and this can carry up to 6,000 lb. of bombs. The crew consists of six; and the armament is one movable cannon-gun, four machine-guns and one two-gun turret—*Drawing by Roland Davies*

AIR AND SEA BATTLE IN THE ATLANTIC

THE wide phrase "Battle of the Atlantic" covers an area which embraces the whole of the North Atlantic, the Caribbean Sea, and adjacent waters. Within this area, a continual struggle for ascendancy is being carried on by the Allied naval and air forces on the one hand, and the enemy under-sea and air forces on the other. In practice, the area roughly divides itself into an eastern half, mainly defended by British sea and air forces, and a western half, now protected by U.S. naval and air forces, assisted by British and Canadian units.

In the eastern half, the defence measures, by sheer virtue of long practice, gained a high degree of efficiency, and have succeeded to a very large extent in checkmating the operations of the U-boats, although they are assisted by Focke-Wulf observation planes which, starting from bases in north-western France, sweep out in a wide semi-circle of some 1,800 miles in length, bent upon spotting the approach of Allied shipping and of communicating their observation to lurking U-boats, whose vision is very small in comparison with the wide sweep of the observer plane.

A GIANT GERMAN U-BOAT, of the type which has been reported in the Atlantic: A vessel of this new type (stated to be between 400 and 500 ft. in length) has made its first attack—on a Canadian fishing schooner. The largest German submarine mentioned in the current "Jane's Fighting Ships" is 275 ft. long. It will be observed that the periscope of the U-boat is not shown: as soon as the submarine breaks surface, this is lowered—to avoid presenting a greater target, as the U-boat would be the more easily seen from another ship



A NEWLY CONVERTED AIRCRAFT-CARRIER: What was once an American merchantman is seen in its new guise as aircraft-carrier for the protection of convoys. The vessel is equipped with a derrick, shown amidships, which will enable it to retrieve seaplanes projected by catapult from battleships and cruisers

Assisting Coastal Command in this area has been the Consolidated Liberator Squadron, which has just completed its first year of work on patrol, convoy escort, and submarine attack. These fast, four-engined, heavily armed bombers range from the Arctic to the Tropics.

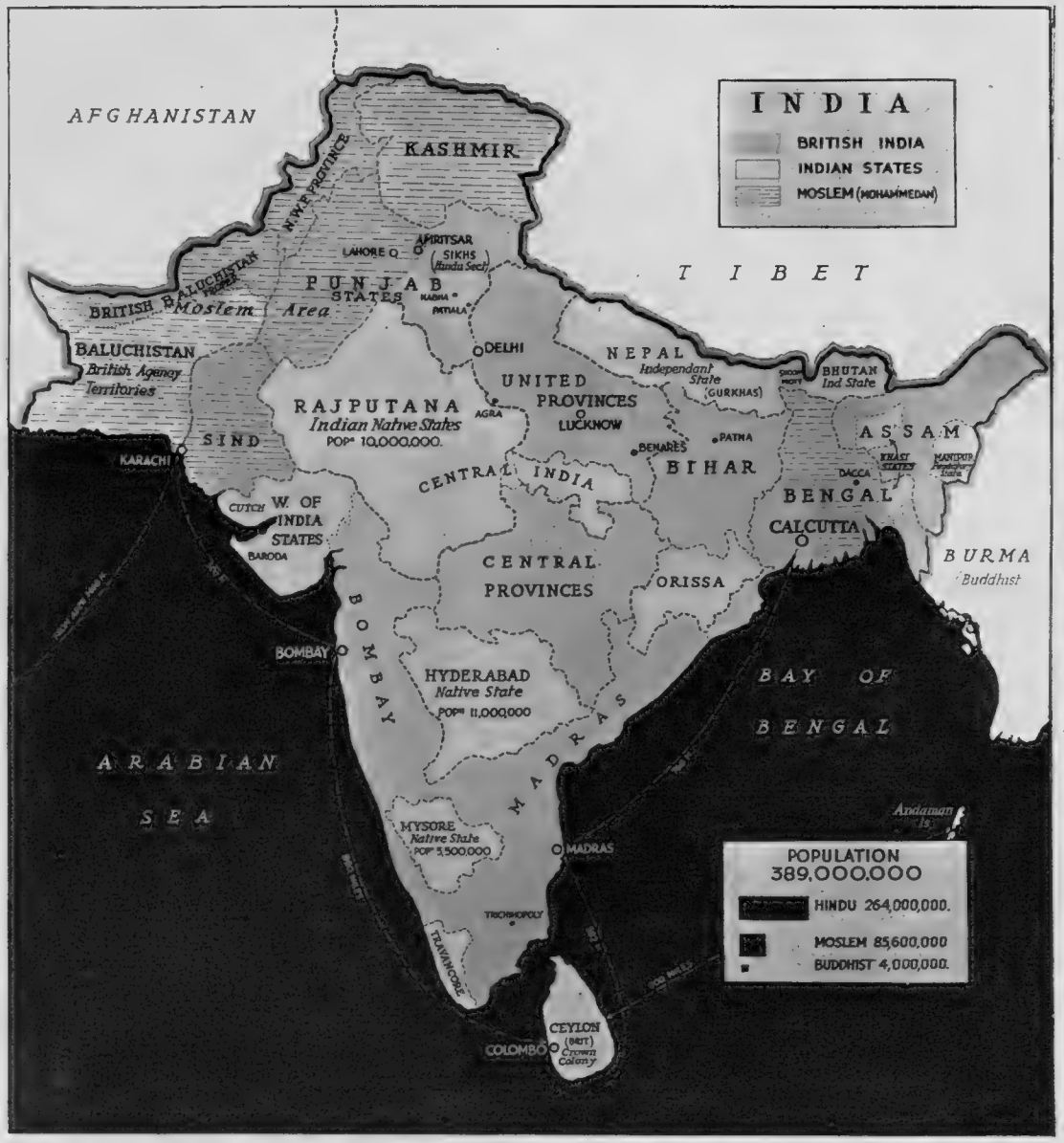
In the western half, the U.S. naval authorities have been building up a varied force of defence vessels to guard their shipping, both coastal and oceanic, against the depredations of the enemy's big, long-ranged submarines. The danger-zone here ranges from the St. Lawrence River in the north, to the waters off Venezuela and Brazil.

The losses to shipping moving in this area have been considerable, but owing to the increased employment of the convoy system, these losses have recently been considerably reduced. The blacking-out of lights along the coast is now more rigorously dealt with. In the recent past there have been cases in which the enemy has been assisted by the glare of unveiled lights, with disastrous results. Collaboration with British vessels is also reported to have had beneficial results.

THE PROBLEM OF INDIA

Once Again to the Forefront of World Politics, Owing to the Attempted "Civil Disobedience" Plan of the Congress Party

—A special Sphere section

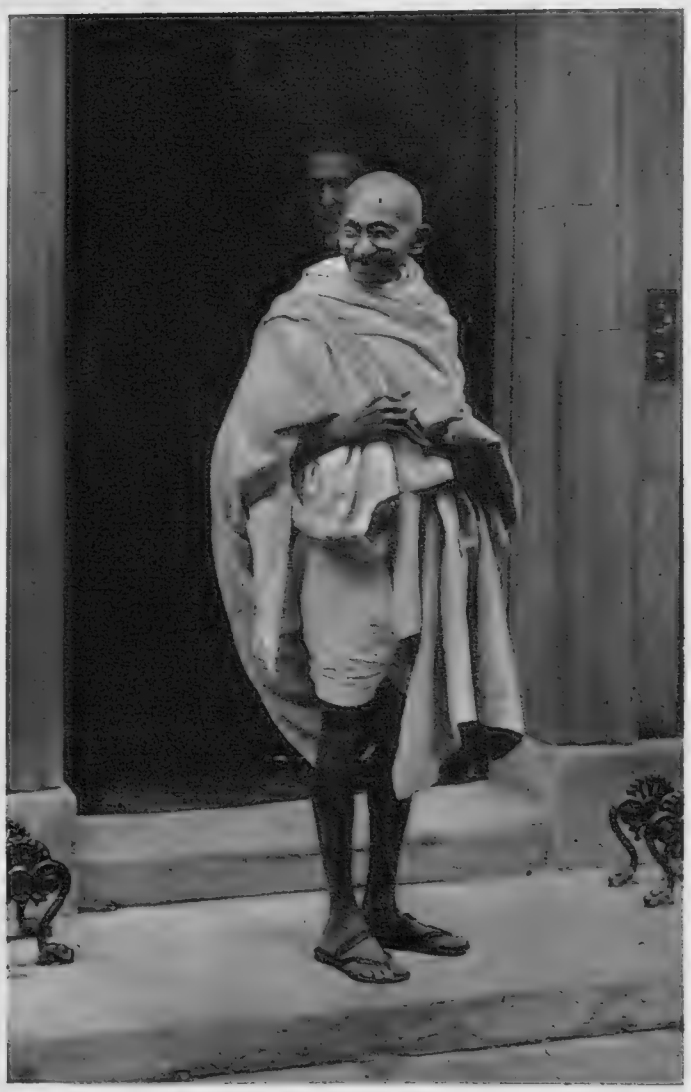


THE SOLUTION OF INDIA'S PROBLEM IS NOT AN EASY ONE, owing to the great mix-up of nationalities—to say nothing of the Indian States, ruled by the Princes—*A special* Sphere *map*

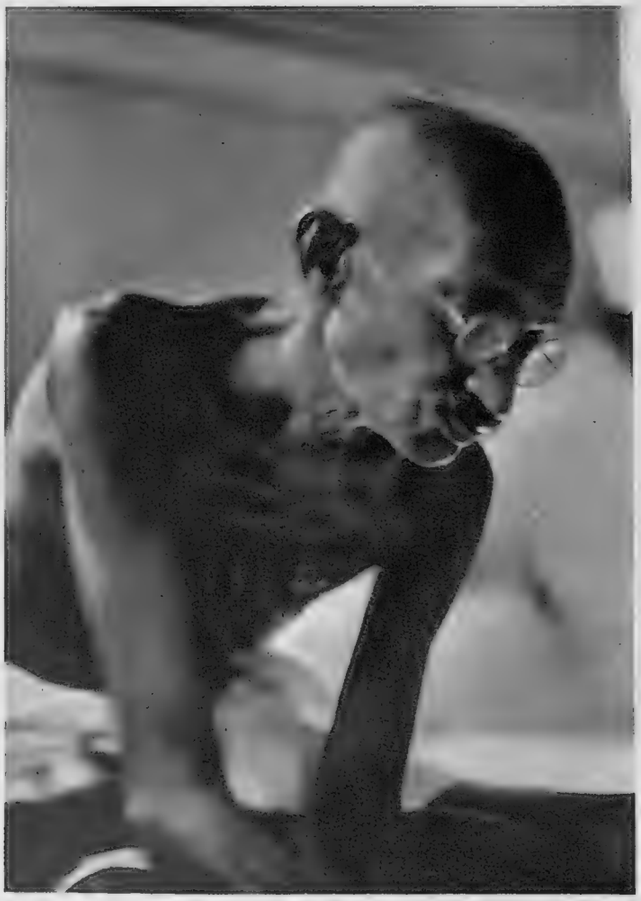
"Do the Congress Party and Mr. Gandhi represent the voice of India?" asked Mr. Amery, Secretary for India, during his recent broadcast on Indian affairs. "It is true that Congress habitually speaks and acts as if that were the case, but it certainly is not. They by no means represent the whole even of Hindu India. The great Muslim community, 95,000,000 strong, vehemently oppose their claim and would not submit to Congress rule. The Depressed Classes, of whom there are some 45,000,000, and many other elements in India also oppose it." It may also be added that, during recent years, the membership of the Congress Party itself has declined considerably! The special map reproduced here shows how the vast continent of India is subdivided: the areas marked by tone represent "British India" (in other words, those portions which come directly under the administration of the Government); in lighter tone are the "Indian States," where the rule is in the hands of the Indian Princes. A further subdivision shows the regions where the population is overwhelmingly Muslim, and therefore entirely opposed to Congress rule. There are 264,000,000 of Hindus; Muslims and Buddhists together total 90,000,000; if one adds the 45,000,000 of the Depressed Classes, it becomes apparent that the resistance to rule by the Congress Party would be very considerable!

LEADERS OF THE CONGRESS PARTY—Dr. Azad and Pandit Jawaharlal Nehru: The latter is recognised to be the eventual successor of Gandhi. He was educated at Harrow and Cambridge and was called to the English Bar. Fifty-two years of age, he has spent seven of them in prison owing to his political activities. Dr. Azad is one of the few Muslim adherents of the Congress Party, of which he is the President: he is a theologian and philosopher and has been a leading politician for a quarter of a century

WHERE GANDHI AND HIS IMMEDIATE ENTOURAGE HAVE BEEN INTERNED—The Yeravda Palace in Poona: This is a large and sumptuous summer palace of the Aga Khan. Here Gandhi, his secretary and his English-born disciple (Miss Slade) have been held since their arrest on August 9. The Yeravda Palace cost £25,000: it is surrounded by beautifully-kept gardens tended by thirty gardeners. The huge reception-rooms are covered with marble, while costly Persian carpets decorate the walls



WHEN GANDHI CAME TO LONDON—in 1931: The Second Round Table Conference was held in London in the year 1931. Gandhi attended as a delegate, and his presence in the capital aroused the liveliest interest. During his stay here he called at No. 10, Downing Street for a chat with Ramsay MacDonald, who was then Prime Minister. The above picture was taken on the doorstep of No. 10 on that momentous occasion



MAHATMA MOHANDAS KARAMCHAND GANDHI in Bombay after his release from gaol in 1931 : It is stated that the Indian leader has an objection to being photographed, and it is impossible to get him to pose. The picture above was obtained by chance, as the Mahatma was absorbed in the perusal of a newspaper after his release from prison in 1931

MR. GANDHI COMES TO ENGLAND and stays at Bow in the year 1931 : When Gandhi came over for the Round Table Conference, he stayed at the Kingsley Hall in Bow, a Settlement where he held court prior to moving up to Hampstead. Here he is pursuing his normal relaxation of spinning whilst conversing with one of his Indian followers. It was largely owing to Gandhi's attitude that the Round Table Conference of 1931 fizzled out without positive result

INDIA—A WORLD "QUESTION MARK"

The Forces Operating For and Against the Congress Party

By PETER LISCOMB

BIGGEST question-mark at the moment, on a world-map dotted with question-marks, is India.

What will be the effect of the Congress resolution ? How much of India does Congress represent ? Will civil disobedience disrupt our military preparations and war production in India ? Will Japan invade from Burma ? Or shall we push back into Burma ?

Some of these questions are anyone's guess. But a glance at the position now, and at the events leading up to it, provides a few pointers on them all.

Take the military position first. To-day, Jap troops squat disconsolately in the rain-soaked, charred, bombed, starving and unfriendly villages of Burma. They are no nearer to invading India by land than they were in May or June. They are further from it. For supply difficulties, malaria, sodden terrain, lack of roads and growing armed and passive resistance from loyal Muslim Indians and Burmans have forced them to withdraw their advanced northern forces from the upper Chindwin, and from the "No Man's Land" between Akyab and the Indian frontier.

They are now said to be concentrating their main forces in South Burma, and their energies in tackling administrative problems and food supply.

The rains are on. About the heaviest rains in the world — averaging 300 ins. in the year, sometimes reaching 800 ins. Streams have become wild torrents. Primitive roads have been washed away. Mountain avalanches have blocked the passes. So it seems impossible that any large-scale military move should be made by either side until the rains end in the autumn.

SEPOYS ARRESTING CONGRESS SUPPORTERS on the Maidan, Bombay, during the disturbances following on the arrest of Gandhi in the year 1932. The police are carrying their long staves, or lathis, which they wield with great effect when necessary

No one can say what the next Jap move will be. A land attack against India would be hazardous. Our bombers could make hay of slow-moving convoys along the mountain road. They could play hell with barge-carried forces creeping up the coast from Akyab for an invasion of Bengal from the sea.

The alternative is a full-dress invasion, with battleships and aircraft-carriers, against the body of India or Ceylon. Only those with a full knowledge of the sea, land and air forces at the disposal of the two sides can weigh the probabilities of such a gamble. But it may well be that the Japs will be content to dig in and consolidate in Burma, milking the country of labour and food on the Nazi plan, while their forces push south to Australia, or north to Siberia.

Meanwhile, in India, Gandhi and a proportion of Congress are carrying out the other Axis practice—disruption from within. Or they are trying to. Will they succeed, and, if so, will our military and war production effort in India be dislocated ?

Those who know India well think they will not succeed. The actual membership of the Congress Party is only 3,000,000-odd, out of a total population of 350,000,000. Many millions more undoubtedly model their actions on Gandhi, and will cause us all the trouble they can, but certainly not all the 263,000,000 Hindus support him.

Chief supporters of Congress are the "babus," the English-speaking clerks who would like to see British officials turfed-out of their well-paid posts so that they, the babus, could step into them. A section of Big Industry is behind it. Altogether, a highly vocal class, but not a predominating one, and not a vital one.

Who is against Congress ? First of all, the 80,000,000 to 100,000,000 Muslims. They want independence. But they hate and fear the Hindus, and see only domination by the Hindus should Congress oust British rule. Their ambition of Pakistan can only come about, they believe, with British co-operation. "Nothing but disaster could happen to the country if Gandhi's proposals were accepted," said the Muslim Premier of Bengal, on August 6. The Indian Army is against Congress. Sixty per cent. of its men are Muslims. The other

ANOTHER, AND IMPORTANT, FACTOR IN INDIAN POLITICS : The Princes of the Independent States, whose position would have to be considered in any settlement of the Indian problem

This picture was taken at a State Banquet held at Palanpur : it is representative of one aspect of Indian life which the Congress Party (with its large tincture of Socialism and Communism) has hitherto ignored. Included in this gathering are Their Highnesses of Kashmir, Bikaner, Porbandar, Palanpur and a host of other Indian notabilities. All the guests—to the number of about 150—dined off silver plate

WHEN IT WAS THOUGHT THAT HINDU-MUSLIM UNITY WAS IN SIGHT IN 1938 : Towards the end of that year, Gandhi left the seclusion of his residence at Wardha to discuss with Mr. Jinnah, the Muslim leader, affairs of interest to both parties. They then had a full three hours' heart-to-heart talk. This picture was taken as Gandhi left Mr. Jinnah's bungalow at Bombay. On Gandhi's right is the Muslim leader ; behind him is Mahadev Desai, his private secretary

THE MAHATMA'S ENGLISH DISCIPLE, MISS SLADE : Daughter of an English Admiral, Miss Slade went out to India many years ago. She adopted the Indian name of Mira bey, dressed in Indian style, and became Gandhi's disciple and assistant. This picture was taken at Marseilles in 1931, when Miss Slade was accompanying Gandhi on his visit to this country

WHAT AN INDIAN RIOT LOOKS LIKE : Native police in action during the violent riots between Muslims and Hindus in Bombay during 1936, when the police were forced to open fire. Note the closed shops of the native bazaar ; and note also the shields carried by the police as a protection against brickbats and other missiles

Fifty million " Untouchables," who can look for a better life only under British rule, are against Congress. That was made clear enough at their recent conference. The Hindu Liberals are against Congress, and so are the Communists. The 10,000,000 Indian Christians are, largely, against Congress. Most of the Labour Party is against Congress. The Peasants' Party is against Congress : their president said in July : " The British, who have been fighting aggression these long years, and have shown themselves unyielding, will surely meet Gandhi's challenge unhesitatingly."

The illiterate masses generally are indifferent. Millions have probably never heard of Congress. They will carry on as before—trying to scrape subsistence from a poor soil.

Geographically, anti-Congress Muslims predominate in the more important (militarily) areas of India. Up in the north and north-east, in the huge areas of Baluchistan, Punjab, Kashmir, where the best fighting men come from. In Bengal—one gateway to India from Burma—Hindus and Muslims are about equal. In Assam—the other gateway—Hindus are balanced numerically by other races.

Throughout central and southern India, the Hindus predominate. But it must be remembered that, though Congress is essentially a Hindu movement, only a proportion of Hindus support it. Many are inimical to it. Many more are indifferent.

India's war production has been growing rapidly. More than 50,000 work in the Indian Government ordnance factories alone. Scores of thousands more are being trained to skilled work. It has been estimated that, of the 60,000 articles needed by a modern army, India is making 45,000. She is even producing 6-inch guns, and some tanks.

Will the war workers obey Gandhi and " lie down " on the job ? It is extremely unlikely, though we must expect some hindrance to production. Plentiful work and good wages are a powerful argument in favour of Britain. And, though the average industrial worker may not love us, he certainly loves Fascism less. Thousands of workers at the great Tata steel works showed that in July, when they pledged support for Britain at an anti-Fascist demonstration.

THE LEADER OF THE MUSLIMS IN INDIA : Ali Mohamed Jinnah is the head of the Muslim League. The Muslims are fewer than the Hindus and fear that a Congress-governed India may turn them into a persecuted minority. Jinnah was opposed to the plans of Sir Stafford Cripps, as to-day he is opposed to the policies of the Congress Party of Gandhi, Azad and Nehru

fighting races think little of politics. They owe personal loyalty and affection to their officers. They despise the babus. They want to fight.

The feelings of these fighting races are best expressed in figures. For long, about 50,000 Indians have been joining the Army every month, and many more than that have volunteered. But in May, just after the failure of the Cripps mission, an all-time record of 70,000 entered the Army.

THE PARSIS, TOO, MUST BE CONSIDERED IN ANY INDIAN PLANS : Here are three Parsi priests who represent the influential community of Bombay

THREE BORAHS, members of a Muslim trading community, which is well represented in the city of Bombay. Few of these men are supporters of the Congress Party

THE STOCK EXCHANGE IN WAR

The "Greatest Securities-Mart of All Time" To-day Operates Under Conditions of Great Difficulties, but it is Still the Most Important Institution of its Kind in Existence. What the War has Meant to the London Stock Exchange is Here Vividly Described

By CHARLES GRAVES

THE war is now approaching the start of its fourth year, and the Stock Exchange still carries on, in spite of grievous difficulties and restrictions.

Perhaps the first reaction of the man in the street would be—why does it? There are, of course, several reasons why; but to get an idea of the changes war has brought about you must visualise the Stock Exchange in peace, when the industry and commerce and finance of the world were in full swing.

A large, irregularly-shaped space, surmounted by two domes, and broken up by large pillars supporting the domes and massive roof; the space crowded with up to 5,000 individuals, the merged sound of hundreds of voices, of thousands of feet, the sudden loud clamour from some active market, and always the strident voices of the "waiters" rising above the din to call this or that member to claim a message or a telegram or answer a telephone call. And from the time the House opens until it closes, a stream of messages arriving by telephone, telegram and cable, from Birmingham, Liverpool, Manchester, Glasgow, Bristol; from Paris, Brussels, Amsterdam, Milan, Basle, and a dozen other Continental cities; from Bombay, Calcutta, Singapore, Sydney, Melbourne—all the markets of the world—all having their effect on values, all bringing business to this greatest securities-mart of all time; all adding to the monetary wealth of Britain, all helping to make the wheels of industry and commerce turn more easily.

Such was the Stock Exchange in the days of peace. In 1939 the number of personnel (that is to say, partners and staff) in active business was over 14,000.

To-day there are 6,052, of whom 1,271 are women, 720 are under military age, 2,313 are over fifty-two, 921 are over sixty, and 232 are over seventy! Deferment has been granted to 309 men, and 135 are awaiting call-up. Yes; the thousands have melted silently away, until only youths and the older and infirm are left. Look where you will, you will see bald heads and grey hairs. The younger dealers and brokers, and some not so young, you will find in India, in Libya, in Egypt, covered with dust and flies and blood; or in lonely posts in Britain.

If it be asked why it is so necessary a part of the system, it may be answered that we do not live in some Utopia where money and profits and capital are meaningless abstractions, but in a society where they represent effort and initiative and production, and that so long as we do live in such a society, a market where these things can be exchanged is a vital necessity to an ordered and orderly economy.

There is no central market on house property; but have you ever tried to sell or buy a house? Weeks, perhaps months, of negotiating and bargaining occur before a deal is done on a house worth perhaps £1,200, perhaps £12,000. If you hold a security on which there is a Stock Exchange market, it can be bought or sold in five minutes, even, very often, when its value is many times £12,000. It would be impossible to raise great War Loans if at the back of them was not only the credit of the British Government, but also the market which enables them to be bought and sold at a market price. All sorts of insurance would be impossible if the insurance companies did not know they could realise securities if need be. Death duties could not be paid if there was no market in which to realise securities.

The Capital Market is closed in wartime and entirely at the disposal of the Treasury; but in peacetime it is only the existence of the intricate machinery of the New Issues Market of the Stock Exchange which enables capital to be raised for the exploitation of new industries or the expansion of old ones.

And so the Stock Exchange functions in wartime—hampered, it is true, by all sorts of restrictions which it accepts, knowing them to be inevitable; coping with a mass of forms and regulations, under-staffed, but determined to fulfil its necessary functions, despite all difficulties, and to maintain, in somewhat chastened mood maybe, its traditional cheerfulness. The paper ball or other missile is not so frequently flung. The paper shortage, more than a much-dishonoured rule, forbids it. The strains of "The Chocolate Soldier" less often greet that member to whom the appellation is attached; "Roll Out the Barrel" has subsided until a more appropriate time; and a sudden hush falls on the House each day at one o'clock when the news is broadcast—but still the House carries on. Occasionally, members now in the "Wavy Navy" appear, bearded like the pard, and almost unrecognisable to their old friends.

How does the Stock Exchange react to war news? The question should really be: how does the British public react to war news? The Stock Exchange—that is, the number of experienced individuals who together make up the corporate body—reacts in an amazingly sensitive way to the balance of outside opinion as it is reflected by the buying and selling orders reaching the dealers through the agents of the public—the brokers.

Influenced by many and varied considerations—a wet night on guard duty, a row with the wife because the breakfast porridge was burnt, even a frayed collar and a lost stud added to some depressing item of war news—may send many a dealer into the market in a gloomy frame of mind, lightened only by the hope that the public will feel as he does and want to sell some of the securities he so badly wants to cover sales he has already made.

"LOMBARD STREET 1927," by a master-draughtsman whose new volume, "London Triumphant," has just been published by the Studio Publications at 15s.: Mr. Sydney R. Jones hardly needs an introduction to *Sphere* readers. His work has been reproduced in these pages over a period of many years. His latest book (just published at 15s. net, by the Studio Publications), will be sought after by all lovers of this ancient city and its historic monuments—some of the latter are, alas! no more since the "blitz" on London. The engraving reproduced above is typical of the delicacy of much of Mr. Jones's work: it shows the Home of Money for centuries—and still the home of money—and the picturesque signs of the great banks. Wren's church of St. Edmund the King and Martyr still towers serene over the scene of cash and credit. In addition to a wealth of drawings and etchings, *London Triumphant* records many impressions in prose of the historic London scene

But since the public recovered from the shock administered by the fall of France, and since the Battle of Britain was won in the summer skies above the meadows and orchards of Kent, Surrey, and Sussex, the great British public has accepted guards, rows with the wife, burnt porridge, frayed collar and all, with an admirable philosophy. It has refused to be stampeded into exchanging its good income-producing securities for bank balances which produce nothing and which are constantly losing ground in purchasing power, whether of securities or commodities. So the wretched dealer painfully cuts another loss whenever a dead 'un comes to market to realise securities to meet death duties, and hopefully tries again at a still higher level. Of course, there is a profit occasionally; otherwise there would be no dealers and no market left.

In more formal terms, what the foregoing means is that the public, and so the Stock Exchange, has learned that with no fresh avenues for investment such as provide a constant scope in peacetime against the attraction of existing securities (except, of course, for the Government War Loans, always "on tap"), the money being distributed by the Treasury in ever-increasing volume in wages, in payment for materials, and so on, must (so far as it is not required for living expenses, which are limited by rationing and control of prices) find employment somewhere. So, too, must the money paid for requisitioned securities.

A large part of all this flows back to the Government in taxes and in subscriptions to War Loans; but there is a balance which is constantly seeking investment in the Stock Exchange, and the only possible effect of that is to force prices higher and higher. First the highest classes of securities—Government and Corporation Loans; then debentures and preference share issues; then what are termed "blue-chip equities"; and finally the general run of securities to which a varying degree of risk attaches. So that the answer to the question "How does the Stock Exchange and the public react to war news?" is that it does not; except in specific cases where values are adjusted to war development, such as the Rubber Market; or, over a longer period, in the South American securities, where wartime developments have brought great access of trade and consequent profits. In the case of the Japanese conquest of the Malay States (one day there was a Rubber Market, the next day, in effect, there was not), any dealings become automatically speculative and highly restricted.

Generally speaking, though, other factors are too strong. "We'll win the war," they say; "then we must see what's what, and try and adapt ourselves and our investments to such conditions as emerge"; or, perhaps, in moments of depression: "If we lose the war it doesn't matter a damn what I've got, money or securities; nothing will be worth anything, so I'm going to stay put."

The question of E.P.T. is almost too technical for a layman like myself to explain. The incidence of 100 per cent. Excess Profits Tax has a marked effect in introducing selectivity in the investor's choice of what industrial Ordinary Shares (for these are the ones affected) he plans to buy for investment. The individual effects of this tax on individual companies can be vaguely guessed at—but no more—by anyone not intimately informed about the internal accounts. For, as the methods of accountancy differ so widely, the effects of the tax on the published balance-sheet present disparities which cannot be foreseen by ordinary investors. Take the rise of the Cunard shares. The whole Cunard fleet is requisitioned by the Government. The answer must be that the accounts submitted to the Inland Revenue are quite different from those shown in the published balance-sheet. So the E.P.T. standard is probably higher than one would have guessed.

War brings many anxieties, many problems, and much work to a body such as the Committee of the Stock Exchange. Unpaid, but devoting time and thought and sacrificing hard-earned leisure to the interests of their fellow-members and the public, the Committee as a whole has deserved the thanks of those it serves. It does not always get them.

For months before war broke out, a number of its members spent long hours in preparing to meet such an eventuality if it came about. They had the precedent of 1914 to help them, but they also had to envisage the possibility of very different conditions. In the upshot, the Stock Exchange met the shock of war with considerable fortitude. Markets were closed for only a brief period to enable the various emergency regulations to be put into force. The interests of the public and of the Government were safeguarded by instituting minimum prices for gilt-edged securities—a step which is sometimes criticised, but the wisdom of which is admitted by those qualified to judge.

Since the beginning of hostilities, the Committee has set itself to work with and assist the authorities in every way within its power, both by active steps in the regulation of dealings to meet wartime conditions, by advice on technical matters, and by diverting the weight of Stock Exchange members to assist the Treasury in the raising of money for the war effort. Foremost in all this have been the Chairman and Deputy Chairman, who have entirely abandoned their own business interests to their partners, and have devoted the whole of their time and energies to their Committee work.

The DIVE-BRAKES of the DORNIER in ACTION

The Umbrella-like Tail of the 217 Type, which has Converted a Bomber into a Dive-Bomber

THE NEW DORNIER DO. 217 IN FLIGHT: The dive-brakes are carried in the part of the tail projecting behind the twin rudders. These brakes operate in the manner shown on the right

A CLOSE-UP OF THE TAIL OF THE AIRCRAFT, showing how the parachute dive-brakes look when not in use. When open, the brake-flaps extend in all four directions

WITH ALL FOUR BRAKE-FLAPS FULLY EXTENDED: How the dive-brakes open out at the very end of the tail of the new Dornier Do. 217 dive-bomber

FOUR STAGES OF A DIVE, showing how the "parachute" device unfolds to check the aircraft's speed

The Dornier Do. 217 has, for long, been a highly successful German bomber. So great has been the success of the Stuka in dive-bombing as opposed to the precision bombing of the Dornier, however, that the latter, too, has now been adapted to perform a similar function by the method shown in the pictures on this page. At the very end of the tail an extension of the fuselage houses dive-brakes which open up like an umbrella, thus giving the aircraft stability during a dive and keeping its downward speed within reasonable limits. The Do. 217 can carry a very heavy load of bombs, torpedoes or mines; it is armed with cannon and machine-guns, and has a turret behind the pilot's seat from which the gunner can shoot in any direction

AWAY FROM THESE WARS. . . .

Memories and Thoughts of the Years Between

—A Fortnightly Causerie **By J. G.**

A NEW series of notes starts in this issue of THE SPHERE upon this page. I have filled t since the present war began. Another page, under another *alias*, I have filled for a much longer time—I hope for not too long a time!

I shall not waste much anxiety upon the "opening night" of this new series. I am hardened by experience. "First nights" are robbed of much of their terrors for old stagers, albeit the oldest stager is alive to their importance and is keyed up and on his toes.

But I am sustained by a fixed belief that the well of an ordinary man's experience and the fountain-head of his ideas are literally inexhaustible, however quiet and commonplace the lines of his pilgrimage through life. His well may not be of rare medicinal waters, his fountain may not spray out champagne, but it need never dry up.

He can always harp on his old strings and deliver the "mixture as before," with variants and corrective amendments, and, indeed, with metaphors as mixed as mine (above). I will liken a man's experience of life and his harvest of ideas to the sands of the seashore, and the details of his biography to one handful of those sands, a little sand-castle on the beach.

My own biographical details occupied about sixteen pages of THE SPHERE, spread over thirty weeks. I admit that I was close, mean and niggardly. I withheld *names*, I sought anonymity, I cut out intimacies; and in that economy (I realise) I austerely rationed colour and interest for my readers. But some of them paid me the compliment of saying that the little experiment into autobiography had interested them and need not be written off as a flop. Me at least it served. It provided me with a more or less chronological chart of my pilgrimage to the exorable end. Those details are the milestones which a man can easily count. But his garnered ideas and his intellectual experiences are the wild flowers in the hedgerows and on the banks, inexhaustible, uncountable, all familiar and all new, common and fresh, household words, yet infinite in their varieties. A man may pick and pick and yet make no impression on the kaleidoscope of the hedgerows:

"Here 's rosemary, that 's for remembrance. . . .
There is pansies, that 's for thoughts."

What have been the great moments of my life? They are not, it seems, given pride of place in memory's rag-bag. How often Memory nods while kings ride by in pomp; and thrills, with an interest that imprints and colours every detail, to pluck a few blackberries in the lane. The great moments of my uneventful life are listed (in the conventional manner) but not illustrated. The first sight of Giotto's Tower under a true Italian sky; the watershed of the Rockies; the landing in France on active service; the stroke of eleven in a little village called Leuze on a misty November morning in 1918; the birth of my first child. Yet always these "Captains and Kings," these "towers and palaces," pass into oblivion, while memories which the smell of scrubbed boards, and drying nursery towels and the scent of dewy grass at dawn bring back, grow ever more vivid as the years pass.

Perhaps, after all, Memory is the best judge.

SOME MEMORIES FROM THE YEARS BETWEEN

(*a*) *At Covent Garden in the* 1920's.—The lights went down, the conductor raised his baton and the first chords of the well-worn overture crashed out. A gleam from the opening door of a box fell, like April sunshine after a shower, on a solitary tiara, causing it to glitter with a hundred points of light.

How far that little candle threw its light! I was back in memory to the "great days" of a vanished epoch, heard the clipper-clop of the broughams and hansoms, smelt the warm and thrilling scents of Long Acre on a summer night and saw the old barn in which I sat afire with an unbroken chain of solid, glinting grids. Queen Alexandra beneath the Royal Arms, Lady Ripon in her usual place, M. de Soveral and Mr. Harry Stonor "among others in the Omnibus Box"; in the stalls, wearing white kid gloves, Birth and Behaviour very much at ease, and Armageddon safely under lock and key until the day should dawn.

(*b*) *At the Mullions in the* 1920's.—We dined with the Mullions in Brook Street, an annual event, and waited interminably for the last couple. Old Lady Mullion loved still to keep in touch with the very smart young things, and it was no surprise to me when, at nine o'clock, without apology, young Mrs. Stewart-Forbes sailed in with her consort. To my rustic mind, this first favourite of the *Tatler* looked incredibly brilliant and triumphant. All through dinner from my place opposite, I watched her turning half an ear to the courtly phrases of Queen Victoria's famous Minister. She did not speak much, for, indeed, she had nothing to say, but she was never idle after the soup. From a system of reticules she extracted a mirror and an arsenal of beautifying instruments—puffs, lipsticks, eyebrow sticks, pots and tubes—and applied them to her lovely face. And before dessert was over, she had completed to her satisfaction the portrait of a reigning beauty. No doubt she had skimped the business of dressing for dinner; for her engagements, as I knew well, were legion. She next turned her attention to her hands and stained each nail a deep vermilion, wiping off the overflow on her napkin. When Lady Mullion gave the sign of departure, young Mrs. Forbes did not instantly respond. She had recourse once more to that wonderful hold-all, and with a quick movement smothered her nose and face and Lord Mullion's coat-sleeve in a snowstorm of powder. Then at last I permitted myself a glance at my old host's face. *Autres temps* . . .

(*c*) *Decline of Respect and Zeal.*—If I were asked to distinguish one out of the many notable changes which make a revolution in social life since my youth, I should choose the decline of respect. In my youth hero-worship was practised by my elders and inculcated in me. But to-day none but the half-educated acknowledge a race of giants, and these are but enlarged photographs of film-stars and other acrobats thrown on a screen by a mechanical process. In the middle years between the two world wars I used sometimes to watch my contemporaries throwing themselves with considerable zeal into an argument about morality or conduct, politics or philosophy, and I tried to account for my own inability to let myself go as they did. I fancy that if your sense of the past is very highly developed, you cannot be energetic about theories of life and conduct. You are held back by the knowledge that the opinions and discoveries of your own generation are only flaunting a new dress. They are old as sin, old as passion, old as sorrow and pain; they were old on the lips of men and women dead these thousand years. No wonder many practical and successful men distrust all efforts to disturb the dust of the ages. It clogs the wheels of progress.

And then I remembered my father and his contemporaries. They shamed me and mine in the robustness and keenness with which they discussed the burning topics and prosecuted the everyday affairs of their lives. The question of election of some blameless youth to the Travellers' or Brooks's would spur them to zealous partisanship and bring them up from Devonshire. They would hotly defend their rights in a railway carriage against desperate odds, deaf to the still, small voice of ridicule. And as for political arguments, they were never weary of bludgeoning each other. To excite ourselves over these matters seemed to us a waste of tissue. And not, I think, because we had more important things to fight for, but because we regarded nothing as important in those years between wars—except, of course, our own personal well-being.

GATHERING THE KING'S HARVEST: A general view showing one of the huge fields in Windsor Great Park, cultivated to produce a wonderful crop of wheat

A VIEW OF THE KING'S HAYSTACKS in course of erection at Windsor. England's historic Royal Park has become a great cornfield, and gathering the King's harvest is now in progress. The ancient oaks and beeches of the Great Park are now standing deep in wheat: there are 350 acres of wheat and 147 acres of oats, barley and other crops

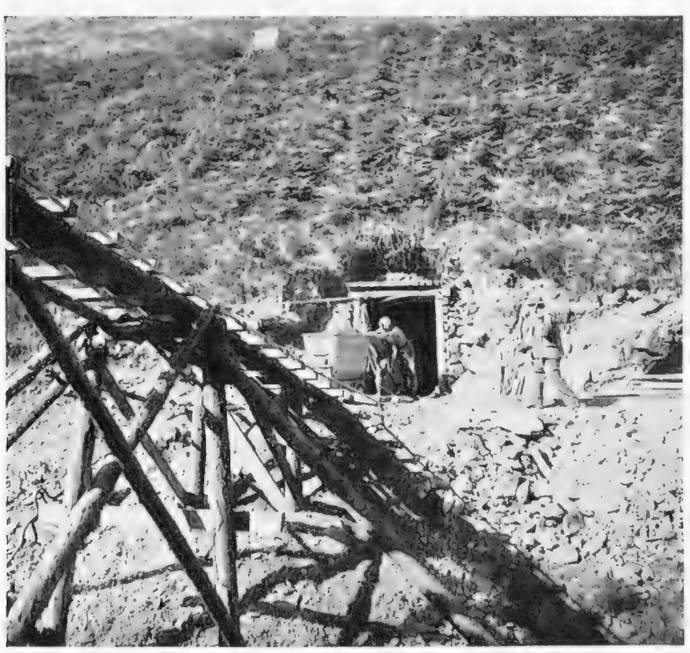
NEWS ITEMS from the HOME FRONT

THE BALLET GOES TO AN EAST END PARK: A great welcome has been given to the Sadler's Wells Ballet Company, who have been giving special "Holidays at Home" performances in Victoria Park, Bethnal Green. First-class ballets have been presented to packed houses at a charge of sixpence each. Eager not to miss a single moment, these youngsters have taken their seats in the gangway for a performance of *Les Sylphides*

A CATHEDRAL IN SURREY AS A CHILDREN'S DORMITORY: The unfinished Cathedral at Guildford was offered to the Surrey County Council by the Bishop when he learned that the Council could not use its permanent camp, and that the children's holidays were in danger. This picture shows girls in their Crypt dormitory in the unfinished edifice getting ready for a walk over the Surrey hills

THE WOMAN WHO BUILDS MUNITION FACTORIES FOR THE GOVERNMENT: Mrs. Maria Agatha Robson, a works contractor of Sheffield, has been mentioned by a Member of Parliament as "the most remarkable woman I know." She took over her husband's business on his death twelve years ago, and before the war was responsible for the building of churches, cinemas and schools (including the Lancashire Mental Hospital at a cost of £750,000). Now she concentrates on war work, and has carried out £4,000,000 worth, including the erection of a small-arms factory. Mrs. Robson employs 1,800 men and is assisted by two of her four daughters

THE CORNISH TIN MINES REOPENED: Mr. J. B. Fern (of the Central Staff) and Richard Whitford, a famous Cornish tin miner with sixty years' experience underground, using the panning shovel for testing ore samples; at left and behind are Lce.-Cpl. Doyle and Pte. F. J. Reavell, two Canadian soldiers *(See notes below)*



A SCENE AT THE WHEAL KITTY MINE IN CORNWALL, where Canadian miners have reopened workings and are now prospecting for tin

LCE.-CPL. R. J. GILMORE PICKING A FACE, AND SAPPER DAWSON (both Canadians) mucking the ore from a previous blasting. They are now 340 ft. from the surface

Famous since the days of the Phœnicians, Cornish tin is once again in demand—especially since the loss of Malaya. To increase production for the Ministry of Supply, Canada's "shock sappers" (the No. 1 Tunnelling Company of the Canadian Army in Britain) are now busily engaged in getting disused mines working once more. Several of the tunnellers have relations in the Cornish tin-mining areas, being themselves descended from natives who went to try their luck in Canadian mines. The soldiers are headed by Colonel Colin Campbell, an ex-mining engineer from Sault Ste. Marie, the only Empire Cabinet Minister on active service. Before joining the Army he was Minister for Public Works for Ontario

The World of Books—By Vernon Fane

FICTION AND FACT PERFECTLY BLENDED

The "Smut-black" Harlem Artist; The Technique of Novels and Novelettes; A Sudan Scrap-book; A Librarian's "Holidays at Home"; The Shipwrecked Naturalist; Science for the Million

WHEN a coloured girl called Augusta idly boasts at a party that she is an artist, and then sets out to prove it to Harlem and the world in general, "you've got something there," as our Allies say.

Miss Norah Hoult's philosophic, rye-drinking "smut-black" girl, heroine of **AUGUSTA STEPS OUT** (Heinemann. 8s. 6d.), is a real creation, and a likeable one, even to her ponderous, well-balanced paintings, and her extreme tolerance in personal relations. I seem to remember meeting Augusta before, in an earlier and more naïve edition, when she was dodging a beating from her father, who was a drunken revivalist preacher, and when she was getting her first touch of high life in a Carolina hick town. The lapse of time—I think it is about a year since the last novel—has improved her, and made her readier than ever to get the fullest possible sensations from life.

Marriage, to Augusta, was both a serious and an edifying business, and when her young husband, Len, was killed, she did not resent her relatives' suggestions that she might marry again, but only the fact that their probable choice would be a dull one. So from Boston she descended on New York, and from that point of vantage found out a little about New Jersey and Greenwich Village, and a great deal about Harlem. She met other artists, and poets and Hollywood stars, and the amusement and comfort she gave them were well worth the three or four rounds of drinks and the occasional pair of silk pyjamas that she managed to acquire. Her only unfortunate acquisition, in fact, was a dusky husband with a tendency to over-decorate interiors.

There is nothing at all about the war, and a great deal about all colours of humanity in *Augusta Steps Out*.

THE ANCIENT CRYPT AT ST. CLEMENT DANES REDISCOVERED: The crypt of the "Oranges and Lemons" church in the Strand, which was closed nearly a century ago, has just been rediscovered by Mr. E. A. Young, Chairman of the Church Council, who (together with an architect) found the long-forgotten entry under a monumental slab in the bombed and fire-scarred shell of the church. The object in searching the crypt was to look at the foundations, which it is hoped will one day be restored. The crypt extends under more than half the area of the church. In the picture above, Mr. W. A. Forsyth, the architect, is coming up after his inspection

Miss Norah Loft's novel is a hundred years removed from this war, back in the days when smuggling was a profitable livelihood of which only the minority and a few Preventive Officers disapproved, and which flourished in the marshes of Essex as it did in the sea pastures of Kent.

THE BRITTLE GLASS (Michael Joseph. 8s. 6d.), however, is not primarily a story of adventure and what I understand is known as derring-do, but the love-story of a very determined, but very feminine, woman. Sorrel's unhappy childhood had bred in her a conviction, in the place of bitterness, that life could be better ordered, or that she at least could order it better when her time came, for her young sisters.

If it meant working as hard, and planning as shrewdly as a man, then she would be equal to that, and if it meant taking risks to her purse and her freedom, and even possibly to her life, then those risks must be accepted as reasonable hazards and somehow evaded. Most of them were, though Sorrel lost her love, and ended her days as the founder and active principal of a girls' school.

The only quarrel that I might have with a book that I found both intelligent and exciting is in the actual technique of its construction. I have no fault to find with its telling, but there is a certain jumpiness in that method by which four narrators, all of them closely concerned with the story, present their versions of its development.

THE ROAD WINDS BACK (Faber and Faber. 7s. 6d.) is a very different matter—a novel which is perilously near to being a novelette.

I give you Mr. Peter Conway's heroine in one of her starker moments:

"'So it seems,' she retorted bitterly. 'But I did have one passing thought that you might play the man—just for once.' She saw him now for what he was, and no longer through a rosy haze of her own emanation. With tormenting clearness that scene when he had renounced her because of her father's failure flashed into her mind. Deliberately she set out to trap him."

There is a good deal more of the same kind of thing, and somewhere, almost lost in all this, is a perfectly competent plot that might have lifted this book from the ranks of the merely readable.

Miss Magdalen King-Hall's **SOMEHOW OVERDONE** (Peter Davies. 7s. 6d.) is described by the author as "a Sudan scrap-book," for whose title she is indebted to Mr. Noel Coward's assertion that "everything that Nature does is somehow overdone."

This is a modest, pleasant and occasionally (and mildly) funny little book—a kind of Provincial Lady, Sudanese model, with less inspiration and a good deal more local colour than that suggests. But not even the Provincial Lady at her most winning had such a talent for making friends, for who could resist the description of Omar, the Muhammadan servant, or the charming Swiss engineer who "assured me that the only way to tell whether macaroni was properly cooked was to throw it against the kitchen wall. If it stuck to the wall, it was all right"?

The Bristol Public Libraries, under their able librarian, Mr. James Ross, have prepared an exemplary little booklet of suggestions for reading, which has been called **HOLIDAYS AT HOME**. As a contribution to that campaign, made necessary by all the wartime shortages and stringencies, it is quite excellent, and I would like to recommend it to a far wider circle of readers than those who can only, by the same token, patronise the Bristol Libraries. It was the same library in which, as I remember, was compiled an admirable short bibliography of works on the United States, on its history and its literature, its song and light fiction. I hope they will accept my congratulations, and that many other libraries will accept the hint.

Without moving from one's own armchair, one can read one's way into at least the illusion of a holiday, as witness the little catalogue's subdivisions: Walking, Swimming, Riding, Rowing, Cricket, Caravanning, Fishing and Photography among them.

Mr. Gilbert Klingel is a naturalist, who set out for the Bahamas in a small sailing-ship to look for the kind of things naturalists look for. Some miles west of San Salvador (which was, incidentally, Columbus's first sight of the Western World), he ran into a storm, and found himself shipwrecked on a reef of one of the most desolate and remote of those two hundred islands.

INAGUA (Robert Hale. 18s.) is a record of adventure to which the shipwreck is only an incidental introduction. The brochures they dish out to tourists on Fifth Avenue are designed to sell these islands to the lotus-eaters. "Isles of June" they call them.

Inagua, then, is that kind of tropical-island paradise which brings restless dreams to a man in a city office. Its drawbacks are only too real after the first day or two on the spot. But Mr. Klingel, being a scientist, had other reasons for enthusiasm: he found strange birds and beasts and fishes.

Inagua, for instance, is the home of the last and most considerable colony of flamingos left in the world. Here, in a great inland lake, lives the tiny mollusc which is the sole diet of that lovely fire-bird. A flock of several thousand flamingos rising against the setting sun must be an unforgettable sight. But then, most things in those parts are brightly coloured or strange in shape, size and habit.

On sharks, Mr. Klingel has a most entertaining chapter, in which he almost convinces the reader that a 25-foot tiger-shark can be a positively friendly companion, and willing to play a game according to the rules of man. To me, his most interesting chapter is called "In Defence of Octopuses," and he relates how he made a friend of one of these hideous and sinister creatures.

I enjoyed this book, but maybe the memory of a Negro, sitting under a cotton-tree, strumming a mandoline, and singing softly: "I went to Inagua de odder day," has something to do with it.

SCIENCE LOOKS AHEAD (Oxford University Press. 12s. 6d.) is a book of remarkable value, particularly in wartime. Edited and compiled by Professor A. M. Low, it is, in fact, a broad survey of the field of science, explaining what has been achieved in the past, and suggesting possible lines for future development.

In it, Professor Low has been assisted by a number of distinguished collaborators, including the Astronomer Royal and Dr. Julian Huxley.

It is, of course, mainly written for the non-scientific, inquiring layman, and whether it is the history and development of the aeroplane in war, meteorology, astronomy, power from the sun, earth and sea, fossils, photography or new developments in medicine which would be your particular interest, you will find it difficult to put the book down.

PLEASE SALVAGE ALL WASTE PAPER

STINGING-NETTLES PRODUCE FIBRE FOR PAPER-MAKING At the Jodrell Laboratory at Kew, experts under Dr. C. R. Metcalfe, the Keeper, are producing fibre from the stalks of nettles suitable for making first-class writing-paper. From the dried leaves, chlorophyll is extracted for use as a vegetable dye or for medicinal purposes. The remainder of the leaves may make food for poultry. Out of each stalk, 5 per cent. dry weight, is fibre similar to that of flax. The picture above shows nettle stalks being cut into short lengths ready for boiling. They are boiled in water for an hour to remove the cortex, or outer skin, and then boiled again in caustic soda, to clear the fibre from the wood and pith

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'SANATOGEN'
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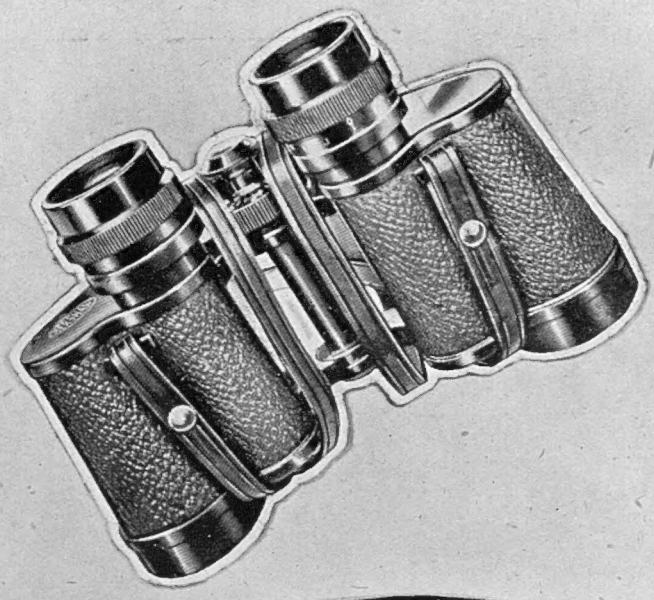

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